AND FORMULAS

—

BARKER

KD 51613

COMPUTING TABLES AND
MATHEMATICAL FORMULAS

ARRANGED FOR THE USE OF
HIGH SCHOOLS AND COLLEGES

BY

E. H. BARKER

HEAD OF THE DEPARTMENT OF MATHEMATICS IN THE
POLYTECHNIC HIGH SCHOOL, LOS ANGELES
CALIFORNIA

GINN AND COMPANY

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PREFACE

The author has long felt the need of a collection of mathematical tables bound in such shape and size as to be suitable and convenient for pocket use, and adapted not so much to the wants of the experienced engineer, for whom there are already in the field many excellent reference books of engineering data, as to the actual needs of the high-school student engaged in studying trigonometry, solid geometry, shop mathematics, and allied subjects. It is hoped that the present compilation will be of material service in the drafting room of technical schools, in the laboratory where problems in structural work are undertaken, and, in fine, wherever mathematical operations are involved. Twenty years of classroom experience leads the author to believe that he has compiled a volume which will appeal to the sense of utility of the great body of American boys, to whose hands the book is confidently intrusted.

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E. H. BARKER

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Los Angeles, California

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A miner's inch of water (in California) is equivalent to a discharge of 1.5 cubic feet per minute.

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam.		No.
					Circum.	Area	
1	1	1	1.0000	1.0000	3.142	0.7854	1
2	4	8	1.4142	1.2599	6.283	3.1416	2
3	9	27	1.7321	1.4422	9.425	7.0686	3
4	16	64	2.0000	1.5874	12.566	12.5664	4
5	25	125	2.2361	1.7100	15.708	19.6350	5
6	36	216	2.4495	1.8171	18.850	28.2743	6
7	49	343	2.6458	1.9129	21.991	38.4845	7
8	64	512	2.8284	2.0000	25.133	50.2655	8
9	81	729	3.0000	2.0801	28.274	63.6173	9
10	100	1000	3.1623	2.1544	31.416	78.5398	10
11	121	1331	3.3166	2.2240	34.558	95.0332	11
12	144	1728	3.4641	2.2894	37.699	113.097	12
13	169	2197	3.6056	2.3513	40.841	132.732	13
14	196	2744	3.7417	2.4101	43.982	153.938	14
15	225	3375	3.8730	2.4662	47.124	176.715	15
16	256	4096	4.0000	2.5198	50.265	201.062	16
17	289	4913	4.1231	2.5713	53.407	226.980	17
18	324	5832	4.2426	2.6207	56.549	254.469	18
19	361	6859	4.3589	2.6684	59.690	283.529	19
20	400	8000	4.4721	2.7144	62.832	314.159	20
21	441	9261	4.5826	2.7589	65.973	346.361	21
22	484	10648	4.6904	2.8020	69.115	380.133	22
23	529	12167	4.7958	2.8439	72.257	415.476	23
24	576	13824	4.8990	2.8845	75.398	452.389	24
25	625	15625	5.0000	2.9240	78.540	490.874	25
26	676	17576	5.0990	2.9625	81.681	530.929	26
27	729	19683	5.1962	3.0000	84.823	572.555	27
28	784	21952	5.2915	3.0366	87.965	615.752	28
29	841	24389	5.3852	3.0723	91.106	660.520	29
30	900	27000	5.4772	3.1072	94.248	706.858	30
31	961	29791	5.5678	3.1414	97.389	754.768	31
32	1024	32768	5.6569	3.1748	100.531	804.248	32
33	1089	35937	5.7446	3.2075	103.673	855.299	33
34	1156	39304	5.8310	3.2396	106.814	907.920	34
35	1225	42875	5.9161	3.2711	109.956	962.113	35
36	1296	46656	6.0000	3.3019	113.097	1017.88	36
37	1369	50653	6.0828	3.3322	116.239	1075.21	37
38	1444	54872	6.1644	3.3620	119.381	1134.11	38
39	1521	59319	6.2450	3.3912	122.522	1194.59	39
40	1600	64000	6.3246	3.4200	125.66	1256.64	40
41	1681	68921	6.4031	3.4482	128.81	1320.25	41
42	1764	74088	6.4807	3.4760	131.95	1385.44	42
43	1849	79507	6.5574	3.5034	135.09	1452.20	43
44	1936	85184	6.6332	3.5303	138.23	1520.53	44
45	2025	91125	6.7082	3.5569	141.37	1590.43	45
46	2216	97336	6.7823	3.5830	144.51	1661.90	46
47	2209	103823	6.8557	3.6088	147.65	1734.94	47
48	2304	110592	6.9282	3.6342	150.80	1809.56	48
49	2401	117649	7.0000	3.6593	153.94	1885.74	49

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam.		No.
					Circum.	Area	
50	2500	125000	7.0711	3.6840	157.08	1963.50	50
51	2601	132651	7.1414	3.7084	160.22	2042.82	51
52	2704	140608	7.2111	3.7325	163.36	2123.72	52
53	2809	148877	7.2801	3.7563	166.50	2206.18	53
54	2916	157464	7.3485	3.7798	169.65	2290.22	54
55	3025	166375	7.4162	3.8030	172.79	2375.83	55
56	3136	175616	7.4833	3.8259	175.93	2463.01	56
57	3249	185193	7.5498	3.8485	179.07	2551.76	57
58	3364	195112	7.6158	3.8709	182.21	2642.08	58
59	3481	205379	7.6811	3.8930	185.35	2733.97	59
60	3600	216000	7.7460	3.9149	188.50	2827.43	60
61	3721	226981	7.8102	3.9365	191.64	2922.47	61
62	3844	238328	7.8740	3.9579	194.78	3019.07	62
63	3969	250047	7.9373	3.9791	197.92	3117.25	63
64	4096	262144	8.0000	4.0000	201.06	3216.99	64
65	4225	274625	8.0623	4.0207	204.20	3318.31	65
66	4356	287496	8.1240	4.0412	207.35	3421.19	66
67	4489	300763	8.1854	4.0615	210.49	3525.65	67
68	4624	314432	8.2462	4.0817	213.63	3631.68	68
69	4761	328509	8.3066	4.1016	216.77	3739.28	69
70	4900	343000	8.3666	4.1213	219.91	3848.45	70
71	5041	357911	8.4261	4.1408	223.05	3959.19	71
72	5184	373248	8.4853	4.1602	226.19	4071.50	72
73	5329	389017	8.5440	4.1793	229.34	4185.39	73
74	5476	405224	8.6023	4.1983	232.48	4300.84	74
75	5625	421875	8.6603	4.2172	235.62	4417.86	75
76	5776	438976	8.7178	4.2358	238.76	4536.46	76
77	5929	456533	8.7750	4.2543	241.90	4656.63	77
78	6084	474552	8.8318	4.2727	245.04	4778.36	78
79	6241	493039	8.8882	4.2908	248.19	4901.67	79
80	6400	512000	8.9443	4.3089	251.33	5026.55	80
81	6561	531441	9.0000	4.3267	254.47	5153.00	81
82	6724	551368	9.0554	4.3445	257.61	5281.02	82
83	6889	571787	9.1104	4.3621	260.75	5410.61	83
84	7056	592704	9.1652	4.3795	263.89	5541.77	84
85	7225	614125	9.2195	4.3968	267.04	5674.50	85
86	7396	636056	9.2736	4.4140	270.18	5808.80	86
87	7569	658503	9.3274	4.4310	273.32	5944.68	87
88	7744	681472	9.3808	4.4480	276.46	6082.12	88
89	7921	704969	9.4340	4.4647	279.60	6221.14	89
90	8100	729000	9.4868	4.4814	282.74	6361.73	90
91	8281	753571	9.5394	4.4979	285.88	6503.88	91
92	8464	778688	9.5917	4.5144	289.03	6647.61	92
93	8649	804357	9.6437	4.5307	292.17	6792.91	93
94	8836	830584	9.6954	4.5468	295.31	6939.78	94
95	9025	857375	9.7468	4.5629	298.45	7088.22	95
96	9216	884736	9.7980	4.5789	301.59	7238.23	96
97	9409	912673	9.8489	4.5947	304.73	7389.81	97
98	9604	941192	9.8995	4.6104	307.88	7542.96	98
99	9801	970299	9.9499	4.6261	311.02	7697.69	99

TABLE II.—POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam.		No.
					Circum.	Area	
100	10000	1000000	10.0000	4.6416	314.16	7853.98	100
101	10201	1030301	10.0499	4.6570	317.30	8011.85	101
102	10404	1061208	10.0995	4.6723	320.44	8171.28	102
103	10609	1092727	10.1489	4.6875	323.58	8332.29	103
104	10816	1124864	10.1980	4.7027	326.73	8494.87	104
105	11025	1157625	10.2470	4.7177	329.87	8659.01	105
106	11236	1191016	10.2956	4.7326	333.01	8824.73	106
107	11449	1225043	10.3441	4.7475	336.15	8992.02	107
108	11664	1259712	10.3923	4.7622	339.29	9160.88	108
109	11881	1295029	10.4403	4.7769	342.43	9331.32	109
110	12100	1331000	10.4881	4.7914	345.58	9503.32	110
111	12321	1367631	10.5357	4.8059	348.72	9676.89	111
112	12544	1404928	10.5830	4.8203	351.86	9852.03	112
113	12769	1442897	10.6301	4.8346	355.00	10028.7	113
114	12996	1481544	10.6771	4.8488	358.14	10207.0	114
115	13225	1520875	10.7238	4.8629	361.28	10386.9	115
116	13456	1560896	10.7703	4.8770	364.42	10568.3	116
117	13689	1601613	10.8167	4.8910	367.57	10751.3	117
118	13924	1643032	10.8628	4.9049	370.71	10935.9	118
119	14161	1685159	10.9087	4.9187	373.85	11122.0	119
120	14400	1728000	10.9545	4.9324	376.99	11309.7	120
121	14641	1771561	11.0000	4.9461	380.13	11499.0	121
122	14884	1815848	11.0454	4.9597	383.27	11689.9	122
123	15129	1860867	11.0905	4.9732	386.42	11882.3	123
124	15376	1906624	11.1355	4.9866	389.56	12076.3	124
125	15625	1953125	11.1803	5.0000	392.70	12271.8	125
126	15876	2000376	11.2250	5.0133	395.84	12469.0	126
127	16129	2048383	11.2694	5.0265	398.98	12667.7	127
128	16384	2097152	11.3137	5.0397	402.12	12868.0	128
129	16641	2146689	11.3578	5.0528	405.27	13069.8	129
130	16900	2197000	11.4018	5.0658	408.41	13273.2	130
131	17161	2248091	11.4455	5.0788	411.55	13478.2	131
132	17424	2299968	11.4891	5.0916	414.69	13684.8	132
133	17689	2352637	11.5326	5.1045	417.83	13892.9	133
134	17956	2406104	11.5758	5.1172	420.97	14102.6	134
135	18225	2460375	11.6190	5.1299	424.12	14313.9	135
136	18496	2515456	11.6619	5.1426	427.26	14526.7	136
137	18769	2571353	11.7047	5.1551	430.40	14741.1	137
138	19044	2628072	11.7473	5.1676	433.54	14957.1	138
139	19321	2685619	11.7898	5.1801	436.68	15174.7	139
140	19600	2744000	11.8322	5.1925	439.82	15393.8	140
141	19881	2803221	11.8743	5.2048	442.96	15614.5	141
142	20164	2863288	11.9164	5.2171	446.11	15836.8	142
143	20449	2924207	11.9583	5.2293	449.25	16060.6	143
144	20736	2985984	12.0000	5.2415	452.39	16286.0	144
145	21025	3048625	12.0416	5.2536	455.53	16513.0	145
146	21316	3112136	12.0830	5.2656	458.67	16741.5	146
147	21609	3176523	12.1244	5.2776	461.81	16971.7	147
148	21904	3241792	12.1655	5.2896	464.96	17203.4	148
149	22201	3307949	12.2066	5.3015	468.10	17436.6	149

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam.		No.
					Circum.	Area	
150	22500	3375000	12.2474	5.3133	471.24	17671.5	150
151	22801	3442951	12.2882	5.3251	474.38	17907.9	151
152	23104	3511808	12.3288	5.3368	477.52	18145.8	152
153	23409	3581577	12.3693	5.3485	480.66	18385.4	153
154	23716	3652264	12.4097	5.3601	483.81	18626.5	154
155	24025	3723875	12.4499	5.3717	486.95	18869.2	155
156	24336	3796416	12.4900	5.3832	490.09	19113.4	156
157	24649	3869893	12.5300	5.3947	493.23	19359.3	157
158	24964	3944312	12.5698	5.4061	496.37	19606.7	158
159	25281	4019679	12.6095	5.4175	499.51	19855.7	159
160	25600	4096000 .	12.6491	5.4288	502.65	20106.2	160
161	25921	4173281	12.6886	5.4401	505.80	20358.3	161
162	26244	4251528	12.7279	5.4514	508.94	20612.0	162
163	26569	4330747	12.7671	5.4626	512.08	20867.2	163
164	26896	4410944	12.8062	5.4737	515.22	21124.1	164
165	27225	4492125	12.8452	5.4848	518.36	21382.5	165
166	27556	4574296	12.8841	5.4959	521.50	21642.4	166
167	27889	4657463	12.9228	5.5069	524.65	21904.0	167
168	28224	4741632	12.9615	5.5178	527.79	22167.1	168
169	28561	4826809	13.0000	5.5288	530.93	22431.8	169
170	28900	4913000	13.0384	5.5397	534.07	22698.0	170
171	29241	5000211	13.0767	5.5505	537.21	22965.8	171
172	29584	5088448	13.1149	5.5613	540.35	23235.2	172
173	29929	5177717	13.1529	5.5721	543.50	23506.2	173
174	30276	5268024	13.1909	5.5828	546.64	23778.7	174
175	30625	5359375	13.2288	5.5934	549.78	24052.8	175
176	30976	5451776	13.2665	5.6041	552.92	24328.5	176
177	31329	5545233	13.3041	5.6147	556.06	24605.7	177
178	31684	5639752	13.3417	5.6252	559.20	24884.6	178
179	32041	5735339	13.3791	5.6357	562.35	25164.9	179
180	32400	5832000	13.4164	5.6462	565.49	25446.9	180
181	32761	5929741	13.4536	5.6567	568.63	25730.4	181
182	33124	6028568	13.4907	5.6671	571.77	26015.5	182
183	33489	6128487	13.5277	5.6774	574.91	26302.2	183
184	33856	6229504	13.5647	5.6877	578.05	26590.4	184
185	34225	6331625	13.6015	5.6980	581.19	26880.3	185
186	34596	6434856	13.6382	5.7083	584.34	27171.6	186
187	34969	6539203	13.6748	5.7185	587.48	27464.6	187
188	35344	6644672	13.7113	5.7287	590.62	27759.1	188
189	35721	6751269	13.7477	5.7388	593.76	28055.2	189
190	36100	6859000	13.7840	5.7489	596.90	28352.9	190
191	36481	6967871	13.8203	5.7590	600.04	28652.1	191
192	36864	7077888	13.8564	5.7690	603.19	28952.9	192
193	37249	7189057	13.8924	5.7790	606.33	29255.3	193
194	37636	7301384	13.9284	5.7890	609.47	29559.2	194
195	38025	7414875	13.9642	5.7989	612.61	29864.8	195
196	38416	7529536	14.0000	5.8088	615.75	30171.9	196
197	38809	7645373	14.0357	5.8186	618.89	30480.5	197
198	39204	7762392	14.0712	5.8285	622.04	30790.7	198
199	39601	7880599	14.1067	5.8383	625.18	31102.6	199

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam.		No.
					Circum.	Area	
200	40000	8000000	14.1421	5.8480	628.32	31415.9	200
201	40401	8120601	14.1774	5.8578	631.46	31730.9	201
202	40804	8242408	14.2127	5.8675	634.60	32047.4	202
203	41209	8365427	14.2478	5.8771	637.74	32365.5	203
204	41616	8489664	14.2829	5.8868	640.89	32685.1	204
205	42025	8615125	14.3178	5.8964	644.03	33006.4	205
206	42436	8741816	14.3527	5.9059	647.17	33329.2	206
207	42849	8869743	14.3875	5.9155	650.31	33653.5	207
208	43264	8998912	14.4222	5.9250	653.45	33979.5	208
209	43681	9129329	14.4568	5.9345	656.59	34307.0	209
210	44100	9261000	14.4914	5.9439	659.73	34636.1	210
211	44521	9393931	14.5258	5.9533	662.88	34966.7	211
212	44944	9528128	14.5602	5.9627	666.02	35298.9	212
213	45369	9663597	14.5945	5.9721	669.16	35632.7	213
214	45796	9800344	14.6287	5.9814	672.30	35968.1	214
215	46225	9938375	14.6629	5.9907	675.44	36305.0	215
216	46656	10077696	14.6969	6.0000	678.58	36643.5	216
217	47089	10218313	14.7309	6.0092	681.73	36983.6	217
218	47524	10360232	14.7648	6.0185	684.87	37325.3	218
219	47961	10503459	14.7986	6.0277	688.01	37668.5	219
220	48400	10648000	14.8324	6.0368	691.15	38013.3	220
221	48841	10793861	14.8661	6.0459	694.29	38359.6	221
222	49284	10941048	14.8997	6.0550	697.43	38707.6	222
223	49729	11089567	14.9332	6.0641	700.58	39057.1	223
224	50176	11239424	14.9666	6.0732	·703.72	39408.1	224
225	50625	11390625	15.0000	6.0822	706.86	39760.8	225
226	51076	11543176	15.0333	6.0912	710.00	40115.0	226
227	51529	11697083	15.0665	6.1002	713.14	40470.8	227
228	51984	11852352	15.0997	6.1091	716.28	40828.1	228
229	52441	12008989	15.1327	6.1180	719.42	41187.1	229
230	52900	12167000	15.1658	6.1269	722.57	41547.6	230
231	53361	12326391	15.1987	6.1358	725.71	41909.6	231
232	53824	12487168	15.2315	6.1446	728.85	42273.3	232
233	54289	12649337	15.2643	6.1534	731.99	42638.5	233
234	54756	12812904	15.2971	6.1622	735.13	43005.3	234
235	55225	12977875	15.3297	6.1710	738.27	43373.6	235
236	55696	13144256	15.3623	6.1797	741.42	43743.5	236
237	56169	13312053	15.3948	6.1885	744.56	44115.0	237
238	56644	13481272	15.4272	6.1972	747.70	44488.1	238
239	57121	13651919	15.4596	6.2058	750.84	44862.7	239
240	57600	13824000	15.4919	6.2145	753.98	45238.9	240
241	58081	13997521	15.5242	6.2231	757.12	45616.7	241
242	58564	14172488	15.5563	6.2317	760.27	45996.1	242
243	59049	14348907	15.5885	6.2403	763.41	46377.0	243
244	59536	14526784	15.6205	6.2488	766.55	46759.5	244
245	60025	14706125	15.6525	6.2573	769.69	47143.5	245
246	60516	14886936	15.6844	6.2658	772.83	47529.2	246
247	61009	15069223	15.7162	6.2743	775.97	47916.4	247
248	61504	15252992	15.7480	6.2828	779.12	48305.1	248
249	62001	15438249	15.7797	6.2912	782.26	48695.5	249

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam.		No.
					Circum.	Area	
250	62500	15625000	15.8114	6.2996	785.40	49087.4	250
251	63001	15813251	15.8430	6.3080	788.54	49480.9	251
252	63504	16003008	15.8745	6.3164	791.68	49875.9	252
253	64009	16194277	15.9060	6.3247	794.82	50272.6	253
254	64516	16387064	15.9374	6.3330	797.96	50670.7	254
255	65025	16581375	15.9687	6.3413	801.11	51070.5	255
256	65536	16777216	16.0000	6.3496	804.25	51471.9	256
257	66049	16974593	16.0312	6.3579	807.39	51874.8	257
258	66564	17173512	16.0624	6.3661	810.53	52279.2	258
259	67081	17373979	16.0935	6.3743	813.67	52685.3	259
260	67600	17576000	16.1245	6.3825	816.81	53092.9	260
261	68121	17779581	16.1555	6.3907	819.96	53502.1	261
262	68644	17984728	16.1864	6.3988	823.10	53912.9	262
263	69169	18191447	16.2173	6.4070	826.24	54325.2	263
264	69696	18399744	16.2481	6.4151	829.38	54739.1	264
265	70225	18609625	16.2788	6.4232	832.52	55154.6	265
266	70756	18821096	16.3095	6.4312	835.66	55571.6	266
267	71289	19034163	16.3401	6.4393	838.81	55990.3	267
268	71824	19248832	16.3707	6.4473	841.95	56410.4	268
269	72361	19465109	16.4012	6.4553	845.09	56832.2	269
270	72900	19683000	16.4317	6.4633	848.23	57255.5	270
271	73441	19902511	16.4621	6.4713	851.37	57680.4	271
272	73984	20123648	16.4924	6.4792	854.51	58106.9	272
273	74529	20346417	16.5227	6.4872	857.66	58534.9	273
274	75076	20570824	16.5529	6.4951	860.80	58964.6	274
275	75625	20796875	16.5831	6.5030	863.94	59395.7	275
276	76176	21024576	16.6132	6.5108	867.08	59828.5	276
277	76729	21253933	16.6433	6.5187	870.22	60262.8	277
278	77284	21484952	16.6733	6.5265	873.36	60698.7	278
279	77841	21717639	16.7033	6.5343	876.50	61136.2	279
280	78400	21952000	16.7332	6.5421	879.65	61575.2	280
281	78961	22188041	16.7631	6.5499	882.79	62015.8	281
282	79524	22425768	16.7929	6.5577	885.93	62458.0	282
283	80089	22665187	16.8226	6.5654	889.07	62901.8	283
284	80656	22906304	16.8523	6.5731	892.21	63347.1	284
285	81225	23149125	16.8819	6.5808	895.35	63794.0	285
286	81796	23393656	16.9115	6.5885	898.50	64242.4	286
287	82369	23639903	16.9411	6.5962	901.64	64692.5	287
288	82944	23887872	16.9706	6.6039	904.78	65144.1	288
289	83521	24137569	17.0000	6.6115	907.92	65597.2	289
290	84100	24389000	17.0294	6.6191	911.06	66052.0	290
291	84681	24642171	17.0587	6.6267	914.20	66508.3	291
292	85264	24897088	17.0880	6.6343	917.35	66966.2	292
293	85849	25153757	17.1172	6.6419	920.49	67425.6	293
294	86436	25412184	17.1464	6.6494	923.63	67886.7	294
295	87025	25672375	17.1756	6.6569	926.77	68349.3	295
296	87616	25934336	17.2047	6.6644	929.91	68813.5	296
297	88209	26198073	17.2337	6.6719	933.05	69279.2	297
298	88804	26463592	17.2627	6.6794	936.19	69746.5	298
299	89401	26730899	17.2916	6.6869	939.34	70215.4	299

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES, AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam. Circum.	Area	No.
300	90000	27000000	17.3205	6.6943	942.48	70685.8	300
301	90601	27270901	17.3494	6.7018	945.62	71157.9	301
302	91204	27543608	17.3781	6.7092	948.76	71631.5	302
303	91809	27818127	17.4069	6.7166	951.90	72106.6	303
304	92416	28094464	17.4356	6.7240	955.04	72583.4	304
305	93025	28372625	17.4642	6.7313	958.19	73061.7	305
306	93636	28652616	17.4929	6.7387	961.33	73541.5	306
307	94249	28934443	17.5214	6.7460	964.47	74023.0	307
308	94864	29218112	17.5499	6.7533	967.61	74506.0	308
309	95481	29503629	17.5784	6.7606	970.75	74990.6	309
310	96100	29791000	17.6068	6.7679	973.89	75476.8	310
311	96721	30080231	17.6352	6.7752	977.04	75964.5	311
312	97344	30371328	17.6635	6.7824	980.18	76453.8	312
313	97969	30664297	17.6918	6.7897	983.32	76944.7	313
314	98596	30959144	17.7200	6.7969	986.46	77437.1	314
315	99225	31255875	17.7482	6.8041	989.60	77931.1	315
316	99856	31554496	17.7764	6.8113	992.74	78426.7	316
317	100489	31855013	17.8045	6.8185	995.88	78923.9	317
318	101124	32157432	17.8326	6.8256	999.03	79422.6	318
319	101761	32461759	17.8606	6.8328	1002.2	79922.9	319
320	102400	32768000	17.8885	6.8399	1005.3	80424.8	320
321	103041	33076161	17.9165	6.8470	1008.5	80928.2	321
322	103684	33386248	17.9444	6.8541	1011.6	81433.2	322
323	104329	33698267	17.9722	6.8612	1014.7	81939.8	323
324	104976	34012224	18.0000	6.8683	1017.9	82448.0	324
325	105625	34328125	18.0278	6.8753	1021.0	82957.7	325
326	106276	34645976	18.0555	6.8824	1024.2	83469.0	326
327	106929	34965783	18.0831	6.8894	1027.3	83981.8	327
328	107584	35287552	18.1108	6.8964	1030.4	84496.3	328
329	108241	35611289	18.1384	6.9034	1033.6	85012.3	329
330	108900	35937000	18.1659	6.9104	1036.7	85529.9	330
331	109561	36264691	18.1934	6.9174	1039.9	86049.0	331
332	110224	36594368	18.2209	6.9244	1043.0	86569.7	332
333	110889	36926037	18.2483	6.9313	1046.2	87092.0	333
334	111556	37259704	18.2757	6.9382	1049.3	87615.9	334
335	112225	37595375	18.3030	6.9451	1052.4	88141.3	335
336	112896	37933056	18.3303	6.9521	1055.6	88668.3	336
337	113569	38272753	18.3576	6.9589	1058.7	89196.9	337
338	114244	38614472	18.3848	6.9658	1061.9	89727.0	338
339	114921	38958219	18.4120	6.9727	1065.0	90258.7	339
340	115600	39304000	18.4391	6.9795	1068.1	90792.0	340
341	116281	39651821	18.4662	6.9864	1071.3	91326.9	341
342	116964	40001688	18.4932	6.9932	1074.4	91863.3	342
343	117649	40353607	18.5203	7.0000	1077.6	92401.3	343
344	118336	40707584	18.5472	7.0068	1080.7	92940.9	344
345	119025	41063625	18.5742	7.0136	1083.8	93482.0	345
346	119716	41421736	18.6011	7.0203	1087.0	94024.7	346
347	120409	41781923	18.6279	7.0271	1090.1	94569.0	347
348	121104	42144192	18.6548	7.0338	1093.3	95114.9	348
349	121801	42508549	18.6815	7.0406	1096.4	95662.3	349

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam.		No.
					Circum.	Area	
350	122500	42875000	18.7083	7.0473	1099.6	96211.3	350
351	123201	43243551	18.7350	7.0540	1102.7	96761.8	351
352	123904	43614208	18.7617	7.0607	1105.8	97314.0	352
353	124609	43986977	18.7883	7.0674	1109.0	97867.7	353
354	125316	44361864	18.8149	7.0740	1112.1	98423.0	354
355	126025	44738875	18.8414	7.0807	1115.3	98979.8	355
356	126736	45118016	18.8680	7.0873	1118.4	99538.2	356
357	127449	45499293	18.8944	7.0940	1121.5	100098	357
358	128164	45882712	18.9209	7.1006	1124.7	100660	358
359	128881	46268279	18.9473	7.1072	1127.8	101223	359
360	129600	46656000	18.9737	7.1138	1131.0	101788	360
361	130321	47045881	19.0000	7.1204	1134.1	102354	361
362	131044	47437928	19.0263	7.1269	1137.3	102922	362
363	131769	47832147	19.0526	7.1335	1140.4	103491	363
364	132496	48228544	19.0788	7.1400	1143.5	104062	364
365	133225	48627125	19.1050	7.1466	1146.7	104635	365
366	133956	49027896	19.1311	7.1531	1149.8	105209	366
367	134689	49430863	19.1572	7.1596	1153.0	105785	367
368	135424	49836032	19.1833	7.1661	1156.1	106362	368
369	136161	50243409	19.2094	7.1726	1159.2	106941	369
370	136900	50653000	19.2354	7.1791	1162.4	107521	370
371	137641	51064811	19.2614	7.1855	1165.5	108103	371
372	138384	51478848	19.2873	7.1920	1168.7	108687	372
373	139129	51895117	19.3132	7.1984	1171.8	109272	373
374	139876	52313624	19.3391	7.2048	1175.0	109858	374
375	140625	52734375	19.3649	7.2112	1178.1	110447	375
376	141376	53157376	19.3907	7.2177	1181.2	111036	376
377	142129	53582633	19.4165	7.2240	1184.4	111628	377
378	142884	54010152	19.4422	7.2304	1187.5	112221	378
379	143641	54439939	19.4679	7.2368	1190.7	112815	379
380	144400	54872000	19.4936	7.2432	1193.8	113411	380
381	145161	55306341	19.5192	7.2495	1196.9	114009	381
382	145924	55742968	19.5448	7.2558	1200.1	114608	382
383	146689	56181887	19.5704	7.2622	1203.2	115209	383
384	147456	56623104	19.5959	7.2685	1206.4	115812	384
385	148225	57066625	19.6214	7.2748	1209.5	116416	385
386	148996	57512456	19.6469	7.2811	1212.7	117021	386
387	149769	57960603	19.6723	7.2874	1215.8	117628	387
388	150544	58411072	19.6977	7.2936	1218.9	118237	388
389	151321	58863869	19.7231	7.2999	1221.1	118847	389
390	152100	59319000	19.7484	7.3061	1225.2	119459	390
391	152881	59776471	19.7737	7.3124	1228.4	120072	391
392	153664	60236288	19.7990	7.3186	1231.5	120687	392
393	154449	60698457	19.8242	7.3248	1234.6	121304	393
394	155236	61162984	19.8494	7.3310	1237.8	121922	394
395	156025	61629875	19.8746	7.3372	1240.9	122542	395
396	156816	62099136	19.8997	7.3434	1244.1	123163	396
397	157609	62570773	19.9249	7.3496	1247.2	123786	397
398	158404	63044792	19.9499	7.3558	1250.4	124410	398
399	159201	63521199	19.9750	7.3619	1253.5	125036	399

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam.		No.
					Circum.	Area	
400	160000	64000000	20.0000	7.3631	1256.6	125664	400
401	160801	64481201	20.0250	7.3742	1259.8	126293	401
402	161604	64964808	20.0499	7.3803	1262.9	126923	402
403	162409	65450827	20.0749	7.3864	1266.1	127556	403
404	163216	65939264	20.0998	7.3925	1269.2	128190	404
405	164025	66430125	20.1246	7.3986	1272.3	128825	405
406	164836	66923416	20.1494	7.4047	1275.5	129462	406
407	165649	67419143	20.1742	7.4108	1278.6	130100	407
408	166464	67917312	20.1990	7.4169	1281.8	130741	408
409	167281	68417929	20.2237	7.4229	1284.9	131382	409
410	168100	68921000	20.2485	7.4290	1288.1	132025	410
411	168921	69426531	20.2731	7.4350	1291.2	132670	411
412	169744	69934528	20.2978	7.4410	1294.3	133317	412
413	170569	70444997	20.3224	7.4470	1297.5	133965	413
414	171396	70957944	20.3470	7.4530	1300.6	134614	414
415	172225	71473375	20.3715·	7.4590	1303.8	135265	415
416	173056	71991296	20.3961	7.4650	1306.9	135918	416
417	173889	72511713	20.4206	7.4710	1310.0	136572	417
418	174724	73034632	20.4450	7.4770	1313.2	137228	418
419	175561	73560059	20.4695	7.4829	1316.3	137885	419
420	176400	74088000	20.4939	7.4889	1319.5	138544	420
421	177241	74618461	20.5183	7.4948	1322.6	139205	421
422	178084	75151448	20.5426	7.5007	1325.8	139867	422
423	178929	75686967	20.5670	7.5067	1328.9	140531	423
424	179776	76225024	20.5913	7.5126	1332.0	141196	424
425	180625	76765625	20.6155	7.5185	1335.2	141863	425
426	181476	77308776	20.6398	7.5244	1338.3	142531	426
427	182329	77854483	20.6640	7.5302	1341.5	143201	427
428	183184	78402752	20.6882	7.5361	1344.6	143872	428
429	184041	78953589	20.7123	7.5420	1347.7	144545	429
430	184900	79507000	20.7364	7.5478	1350.9	145220	430
431	185761	80062991	20.7605	7.5537	1354.0	145896	431
432	186624	80621568	20.7846	7.5595	1357.2	146574	432
433	187489	81182737	20.8087	7.5654	1360.3	147254	433
434	188356	81746504	20.8327	7.5712	1363.5	147934	434
435	189225	82312875	20.8567	7.5770	1366.6	148617	435
436	190096	82881856	20.8806	7.5828	1369.7	149301	436
437	190969	83453453	20.9045	7.5886	1372.9	149987	437
438	191844	84027672	20.9284	7.5944	1376.0	150674	438
439	192721	84604519	20.9523	7.6001	1379.2	151363	439
440	193600	85184000	20.9762	7.6059	1382.3	152053	440
441	194481	85766121	21.0000	7.6117	1385.4	152745	441
442	195364	86350888	21.0238	7.6174	1388.6	153439	442
443	196249	86938307	21.0476	7.6232	1391.7	154134	443
444	197136	87528384	21.0713	7.6289	1394.9	154830	444
445	198025	88121125	21.0950	7.6346	1398.0	155528	445
446	198916	88716536	21.1187	7.6403	1401.2	156228	446
447	199809	89314623	21.1424	7.6460	1404.3	156930	447
448	200704	89915392	21.1660	7.6517	1407.4	157633	448
449	201601	90518849	21.1896	7.6574	1410.6	158337	449

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

| No. | Square | Cube | Square Root | Cube Root | No. = Diam. | | No. |
					Circum.	Area	
450	202500	91125000	21.2132	7.6631	1413.7	159043	450
451	203401	91733851	21.2368	7.6688	1416.9	159751	451
452	204304	92345408	21.2603	7.6744	1420.0	160460	452
453	205209	92959677	21.2838	7.6801	1423.1	161171	453
454	206116	93576664	21.3073	7.6857	1426.3	161883	454
455	207025	94196375	21.3307	7.6914	1429.4	162597	455
456	207936	94818816	21.3542	7.6970	1432.6	163313	456
457	208849	95443993	21.3776	7.7026	1435.7	164030	457
458	209764	96071912	21.4009	7.7082	1438.9	164748	458
459	210681	96702579	21.4243	7.7138	1442.0	165468	459
460	211600	97336000	21.4476	7.7194	1445.1	166190	460
461	212521	97972181	21.4709	7.7250	1448.3	166914	461
462	213444	98611128	21.4942	7.7306	1451.4	167639	462
463	214369	99252847	21.5174	7.7362	1454.6	168365	463
464	215296	99897344	21.5407	7.7418	1457.7	169093	464
465	216225	100544625	21.5639	7.7473	1460.8	169823	465
466	217156	101194696	21.5870	7.7529	1464.0	170554	466
467	218089	101847563	21.6102	7.7584	1467.1	171287	467
468	219024	102503232	21.6333	7.7639	1470.3	172021	468
469	219961	103161709	21.6564	7.7695	1473.4	172757	469
470	220900	103823000	21.6795	7.7750	1476.5	173494	470
471	221841	104487111	21.7025	7.7805	1479.7	174234	471
472	222784	105154048	21.7256	7.7860	1482.8	174974	472
473	223729	105823817	21.7486	7.7915	1486.0	175716	473
474	224676	106496424	21.7715	7.7970	1489.1	176460	474
475	225625	107171875	21.7945	7.8025	1492.3	177205	475
476	226576	107850176	21.8174	7.8079	1495.4	177952	476
477	227529	108531333	21.8403	7.8134	1498.5	178701	477
478	228484	109215352	21.8632	7.8188	1501.7	179451	478
479	229441	109902239	21.8861	7.8243	1504.8	180203	479
.480	230400	110592000	21.9089	7.8297	1508.0	180956	480
481	231361	111284641	21.9317	7.8352	1511.1	181711	481
482	232324	111980168	21.9545	7.8406	1514.3	182467	482
483	233289	112678587	21.9773	7.8460	1517.4	183225	483
484	234256	113379904	22.0000	7.8514	1520.5	183984	484
485	235225	114084125	22.0227	7.8568	1523.7	184745	485
486	236196	114791256	22.0454	7.8622	1526.8	185508	486
487	237169	115501303	22.0681	7.8676	1530.0	186272	487
488	238144	116214272	22.0907	7.8730	1533.1	187038	488
489	239121	116930169	22.1133	7.8784	1536.2	187805	489
490	240100	117649000	22.1359	7.8837	1539.4	188574	490
491	241081	118370771	22.1585	7.8891	1542.5	189345	491
492	242064	119095488	22.1811	7.8944	1545.7	190117	492
493	243049	119823157	22.2036	7.8998	1548.8	190890	493
494	244036	120553784	22.2261	7.9051	1551.9	191665	494
495	245025	121287375	22.2486	7.9105	1555.1	192442	495
496	246016	122023936	22.2711	7.9158	1558.2	193221	496
497	247009	122763473	22.2935	7.9211	1561.4	194000	497
498	248004	123505992	22.3159	7.9264	1564.5	194782	498
499	249001	124251499	22.3383	7.9317	1567.7	195565	499

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam. Circum.	No. = Diam. Area	No.
500	250000	125000000	22.3607	7.9370	1570.8	196350	500
501	251001	125751501	22.3830	7.9423	1573.9	197136	501
502	252004	126506008	22.4054	7.9476	1577.1	197923	502
503	253009	127263527	22.4277	7.9528	1580.2	198713	503
504	254016	128024064	22.4499	7.9581	1583.4	199504	504
505	255025	128787625	22.4722	7.9634	1586.5	200296	505
506	256036	129554216	22.4944	7.9686	1589.7	201090	506
507	257049	130323843	22.5167	7.9739	1592.8	201886	507
508	258064	131096512	22.5389	7.9791	1595.9	202683	508
509	259081	131872229	22.5610	7.9843	1599.1	202482	509
510	260100	132651000	22.5832	7.9896	1602.2	204282	510
511	261121	133432831	22.6053	7.9948	1605.4	205084	511
512	262144	134217728	22.6274	8.0000	1608.5	205887	512
513	263169	135005697	22.6495	8.0052	1611.6	206692	513
514	264196	135796744	22.6716	8.0104	1614.8	207499	514
515	265225	136590875	22.6936	8.0156	1617.9	208307	515
516	266256	137388096	22.7156	8.0208	1621.1	209117	516
517	267289	138188413	22.7376	8.0260	1624.2	209928	517
518	268324	138991832	22.7596	8.0311	1627.3	210741	518
519	269361	139798359	22.7816	8.0363	1630.5	211556	519
520	270400	140608000	22.8035	8.0415	1633.6	212372	520
521	271441	141420761	22.8254	8.0466	1636.8	213189	521
522	272484	142236648	22.8473	8.0517	1639.9	214008	522
523	273529	143055667	22.8692	8.0569	1643.1	214829	523
524	274576	143877824	22.8910	8.0620	1646.2	215651	524
525	275625	144703125	22.9129	8.0671	1649.3	216475	525
526	276676	145531576	22.9347	8.0723	1652.5	217301	526
527	277729	146363183	22.9565	8.0774	1655.6	218128	527
528	278784	147197952	22.9783	8.0825	1658.8	218956	528
529	279841	148035889	23.0000	8.0876	1661.9	219787	529
530	280900	148877000	23.0217	8.0927	1665.0	220618	530
531	281961	149721291	23.0434	8.0978	1668.2	221452	531
532	283024	150568768	23.0651	8.1028	1671.3	222287	532
533	284089	151419437	23.0868	8.1079	1674.5	223123	533
534	285156	152273304	23.1084	8.1130	1677.6	223961	534
535	286225	153130375	23.1301	8.1180	1680.8	224801	535
536	287296	153990656	23.1517	8.1231	1683.9	225642	536
537	288369	154854153	23.1733	8.1281	1687.0	226484	537
538	289444	155720872	23.1948	8.1332	1690.2	227329	538
539	290521	156590819	23.2164	8.1382	1693.3	228175	539
540	291600	157464000	23.2379	8.1433	1696.5	229022	540
541	292681	158340421	23.2594	8.1483	1699.6	229871	541
542	293764	159220088	23.2809	8.1533	1702.7	230722	542
543	294849	160103007	23.3024	8.1583	1705.9	231574	543
544	295936	160989184	23.3238	8.1633	1709.0	232428	544
545	297025	161878625	23.3452	8.1683	1712.2	233283	545
546	298116	162771336	23.3666	8.1733	1715.3	234140	546
547	299209	163667323	23.3880	8.1783	1718.5	234998	547
548	300304	164566592	23.4094	8.1833	1721.6	235858	548
549	301401	165469149	23.4307	8.1882	1724.7	236720	549

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

| No. | Square | Cube | Square Root | Cube Root | No. = Diam. | | No. |
					Circum.	Area	
550	302500	166375000	23.4521	8.1932	1727.9	237583	550
551	303601	167284151	23.4734	8.1982	1731.0	238448	551
552	304704	168196608	23.4947	8.2031	1734.2	239314	552
553	305809	169112377	23.5160	8.2081	1737.3	240182	553
554	306916	170031464	23.5372	8.2130	1740.4	241051	554
555	308025	170953875	23.5584	8.2180	1743.6	241922	555
556	309136	171879616	23.5797	8.2229	1746.7	242795	556
557	310249	172808693	23.6008	8.2278	1749.9	243669	557
558	311364	173741112	23.6220	8.2327	1753.0	244545	558
559	312481	174676879	23.6432	8.2377	1756.2	245422	559
560	313600	175616000	23.6643	8.2426	1759.3	246301	560
561	314721	176558481	23.6854	8.2475	1762.4	247181	561
562	315844	177504328	23.7065	8.2524	1765.6	248063	562
563	316969	178453547	23.7276	8.2573	1768.7	248947	563
564	318096	179406144	23.7487	8.2621	1771.9	249832	564
565	319225	180362125	23.7697	8.2670	1775.0	250719	565
566	320356	181321496	23.7908	8.2719	1778.1	251607	566
567	321489	182284263	23.8118	8.2768	1781.3	252497	567
568	322624	183250432	23.8328	8.2816	1784.4	253388	568
569	323761	184220009	23.8537	8.2865	1787.6	254281	569
570	324900	185193000	23.8747	8.2913	1790.7	255176	570
571	326041	186169411	23.8956	8.2962	1793.9	256072	571
572	327184	187149248	23.9165	8.3010	1797.0	256970	572
573	328329	188132517	23.9374	8.3059	1800.1	257869	573
574	329476	189119224	23.9583	8.3107	1803.3	258770	574
575	330625	190109375	23.9792	8.3155	1806.4	259672	575
576	331776	191102976	24.0000	8.3203	1809.6	260576	576
577	332929	192100033	24.0208	8.3251	1812.7	261482	577
578	334084	193100552	24.0416	8.3300	1815.8	262389	578
579	335241	194104539	24.0624	8.3348	1819.0	263298	579
580	336400	195112000	24.0832	8.3396	1822.1	264208	580
581	337561	196122941	24.1039	8.3443	1825.3	265120	581
582	338724	197137368	24.1247	8.3491	1828.4	266033	582
583	339889	198155287	24.1454	8.3539	1831.6	266948	583
584	341056	199176704	24.1661	8.3587	1834.7	267865	584
585	342225	200201625	24.1868	8.3634	1837.8	268783	585
586	343396	201230056	24.2074	8.3682	1841.0	269701	586
587	344569	202262003	24.2281	8.3730	1844.1	270624	587
588	345744	203297472	24.2487	8.3777	1847.3	271547	588
589	346921	204336469	24.2693	8.3825	1850.4	272471	589
590	348100	205379000	24.2899	8.3872	1853.5	273397	590
591	349281	206425071	24.3105	8.3919	1856.7	274325	591
592	350464	207474688	24.3311	8.3967	1859.8	275254	592
593	351649	208527857	24.3516	8.4014	1863.0	276184	593
594	352836	209584584	24.3721	8.4061	1866.1	277117	594
595	354025	210644875	24.3926	8.4108	1869.3	278051	595
596	355216	211708736	24.4131	8.4155	1872.4	278986	596
597	356409	212776173	24.4336	8.4202	1875.5	279923	597
598	357604	213847192	24.4540	8.4249	1878.7	280862	598
599	358801	214921799	24.4745	8.4296	1881.8	281802	599

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam. Circum.	No. = Diam. Area	No.
600	360000	216000000	24.4949	8.4343	1885.0	282743	600
601	361201	217081801	24.5153	8.4390	1888.1	283687	601
602	362404	218167208	24.5357	8.4437	1891.2	264631	602
603	363609	219256227	24.5561	8.4484	1894.4	285578	603
604	364816	220348864	24.5764	8.4530	1897.5	286526	604
605	366025	221445125	24.5967	8.4577	1900.7	287475	605
606	367236	222545016	24.6171	8.4623	1903.8	288426	606
607	368449	223648543	24.6374	8.4670	1907.0	289379	607
608	369664	224755712	24.6577	8.4716	1910.1	290333	608
609	370881	225866529	24.6779	8.4763	1913.2	291289	609
610	372100	226981000	24.6982	8.4809	1916.4	292247	610
611	373321	228099131	24.7184	8.4856	1919.5	293206	611
612	374544	229220928	24.7386	8.4902	1922.7	294166	612
613	375769	230346397	24.7588	8.4948	1925.8	295128	613
614	376996	231475544	24.7790	8.4994	1928.9	296092	614
615	378225	232608375	24.7992	8.5040	1932.1	297057	615
616	379456	233744896	24.8193	8.5086	1935.2	298024	616
617	380689	234885113	24.8395	8.5132	1938.4	298992	617
618	381924	236029032	24.8596	8.5178	1941.5	299962	618
619	383161	237176659	24.8797	8.5224	1944.7	300934	619
620	384400	238328000	24.8998	8.5270	1947.8	301907	620
621	385641	239483061	24.9199	8.5316	1950.9	302882	621
622	386884	240641848	24.9399	8.5462	1954.1	303858	622
623	388129	241804367	24.9600	8.5408	1957.2	304836	623
624	389376	242970624	24.9800	8.5453	1960.4	305815	624
625	390625	244140625	25.0000	8.5499	1963.5	306796	625
626	391876	245314376	25.0200	8.5544	1966.6	307779	626
627	393129	246491883	25.0400	8.5590	1969.8	308763	627
628	394384	247673152	25.0599	8.5635	1972.9	309748	628
629	395641	248858189	25.0799	8.5681	1976.1	310736	629
630	396900	250047000	25.0998	8.5726	1979.2	311725	630
631	398161	251239591	25.1197	8.5772	1982.4	312715	631
632	399424	252435968	25.1396	8.5817	1985.5	313707	632
633	400689	253636137	25.1595	8.5862	1988.6	314700	633
634	401956	254840104	25.1794	8.5907	1991.8	315696	634
635	403225	256047875	25.1992	8.5952	1994.9	316692	635
636	404496	257259456	25.2190	8.5997	1998.1	317690	636
637	405769	258474853	25.2389	8.6043	2001.2	318690	637
638	407044	259694072	25.2587	8.6088	2004.3	319692	638
639	408321	260917119	25.2784	8.6132	2007.5	320695	639
640	409600	262144000	25.2982	8.6177	2010.6	321699	640
641	410881	263374721	25.3180	8.6222	2013.8	322705	641
642	412164	264609288	25.3377	8.6267	2016.9	323713	642
643	413449	265847707	25.3574	8.6312	2020.0	324722	643
644	414736	267089984	25.3772	8.6357	2023.2	325733	644
645	416025	268336125	25.3969	8.6401	2026.3	326745	645
646	417316	269586136	25.4165	8.6446	2029.5	327759	646
647	418609	270840023	25.4362	8.6490	2032.6	328775	647
648	419904	272097792	25.4558	8.6535	2035.8	329792	648
649	421201	273359449	25.4755	8.6579	2038.9	330810	649

TABLE II.—POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam.		No.
					Circum.	Area	
650	422500	274625000	25.4951	8.6624	2042.0	331831	650
651	423801	275894451	25.5147	8.6668	2045.2	332853	651
652	425104	277167808	25.5343	8.6713	2048.3	333876	652
653	426409	278445077	25.5539	8.6757	2051.5	334901	653
654	427716	279726264	25.5734	8.6801	2054.6	335927	654
655	429025	281011375	25.5930	8.6845	2057.7	336955	655
656	430336	282300416	25.6125	8.6890	2060.9	337985	656
657	431649	283593393	25.6320	8.6934	2064.0	339016	657
658	432964	284890312	25.6515	8.6978	2067.2	340049	658
659	434281	286191179	25.6710	8.7022	2070.3	341084	659
660	435600	287496000	25.6905	8.7066	2073.5	342119	660
661	436921	288804781	25.7099	8.7110	2076.6	343157	661
662	438244	290117528	25.7294	8.7154	2079.7	344196	662
663	439569	291434247	25.7488	8.7198	2082.9	345237	663
664	440896	292754944	25.7682	8.7241	2086.0	346279	664
665	442225	294079625	25.7876	8.7285	2089.2	347323	665
666	443556	295408296	25.8070	8.7329	2092.3	348368	666
667	444889	296740963	25.8263	8.7373	2095.4	349415	667
668	446224	298077632	25.8457	8.7416	2098.6	350464	668
669	447561	299418309	25.8650	8.7460	2101.7	351514	669
670	448900	300763000	25.8844	8.7503	2104.9	352565	670
671	450241	302111711	25.9037	8.7547	2108.0	353618	671
672	451584	303464448	25.9230	8.7590	2111.2	354673	672
673	452929	304821217	25.9422	8.7634	2114.3	355730	673
674	454276	306182024	25.9615	8.7677	2117.4	356788	674
675	455625	307546875	25.9808	8.7721	2120.6	357847	675
676	456976	308915776	26.0000	8.7764	2123.7	358908	676
677	458329	310288733	26.0192	8.7807	2126.9	359971	677
678	459684	311665752	26.0384	8.7850	2130.0	361035	678
679	461041	313046839	26.0576	8.7893	2133.1	362101	679
680	462400	314432000	26.0768	8.7937	2136.3	363168	680
681	463761	315821241	26.0960	8.7980	2139.4	364237	681
682	465124	317214568	26.1151	8.8023	2142.6	365308	682
683	466489	318611987	26.1343	8.8066	2145.7	366380	683
684	467856	320013504	26.1534	8.8109	2148.9	367453	684
685	469225	321419125	26.1725	8.8152	2152.0	368528	685
686	470596	322828856	26.1916	8.8194	2155.1	369605	686
687	471969	324242703	26.2107	8.8237	2158.3	370684	687
688	473344	325660672	26.2298	8.8280	2161.4	371764	688
689	474721	327082769	26.2488	8.8323	2164.6	372845	689
690	476100	328509000	26.2679	8.8366	2167.7	373928	690
691	477481	329939371	26.2869	8.8408	2170.8	375013	691
692	478864	331373888	26.3059	8.8451	2174.0	376099	692
693	480249	332812557	26.3249	8.8493	2177.1	377187	693
694	481636	334255384	26.3439	8.8536	2180.3	378276	694
695	483025	335702375	26.3629	8.8578	2183.4	379367	695
696	484416	337153536	26.3818	8.8621	2186.6	380459	696
697	485809	338608873	26.4008	8.8663	2189.7	381554	697
698	487204	340068392	26.4197	8.8706	2192.8	382649	698
699	488601	341532099	26.4386	8.8748	2196.0	383746	699

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam.		No.
					Circum.	Area	
700	490000	343000000	26.4575	8.8790	2199.1	384845	700
701	491401	344472101	26.4764	8.8833	2202.3	385945	701
702	492804	345948408	26.4953	8.8875	2205.4	387047	702
703	494209	347428927	26.5141	8.8917	2208.5	388151	703
704	495616	348913664	26.5330	8.8959	2211.7	389256	704
705	497025	350402625	26.5518	8.9001	2214.8	390363	705
706	498436	351895816	26.5707	8.9043	2218.0	391471	706
707	499849	353393243	26.5895	8.9085	2221.1	392580	707
708	501264	354894912	26.6083	8.9127	2224.3	393692	708
709	502681	356400829	26.6271	8.9169	2227.4	394805	709
710	504100	357911000	26.6458	8.9211	2230.5	395919	710
711	505521	359425431	26.6646	8.9253	2233.7	397035	711
712	506944	360944128	26.6833	8.9295	2236.8	398153	712
713	508369	362467097	26.7021	8.9337	2240.0	399272	713
714	509796	363994344	26.7208	8.9378	2243.1	400393	714
715	511225	365525875	26.7395	8.9420	2246.2	401515	715
716	512656	367061696	26.7582	8.9462	2249.4	402639	716
717	514089	368601813	26.7769	8.9503	2252.5	403765	717
718	515524	370146232	26.7955	8.9545	2255.7	404892	718
719	516961	371694959	26.8142	8.9587	2258.8	406020	719
720	518400	373248000	26.8328	8.9628	2261.9	407150	720
721	519841	374805361	26.8514	8.9670	2265.1	408282	721
722	521284	376367048	26.8701	8.9711	2268.2	409416	722
723	522729	377933067	26.8887	8.9752	2271.4	410550	723
724	524176	379503424	26.9072	8.9794	2274.5	411687	724
725	525625	381078125	26.9258	8.9835	2277.7	412825	725
726	527076	382657176	26.9444	8.9876	2280.8	413965	726
727	528529	384240583	26.9629	8.9918	2283.9	415106	727
728	529984	385828352	26.9815	8.9959	2287.1	416248	728
729	531441	387420489	27.0000	9.0000	2290.2	417393	729
730	532900	389017000	27.0185	9.0041	2293.4	418539	730
731	534361	390617891	27.0370	9.0082	2296.5	419686	731
732	535824	392223168	27.0555	9.0123	2299.7	420835	732
733	537289	393832837	27.0740	9.0164	2302.8	421986	733
734	538756	395446904	27.0924	9.0205	2305.9	423138	734
735	540225	397065375	27.1109	9.0246	2309.1	424293	735
736	541696	398688256	27.1293	9.0287	2312.2	425448	736
737	543169	400315553	27.1477	9.0328	2315.4	426604	737
738	544644	401947272	27.1662	9.0369	2318.5	427762	738
739	546121	403583419	27.1846	9.0410	2321.6	428922	739
740	547600	405224000	27.2029	9.0450	2324.8	430084	740
741	549081	406869021	27.2213	9.0491	2327.9	431247	741
742	550564	408518488	27.2397	9.0532	2331.1	432412	742
743	552049	410172407	27.2580	9.0572	2334.2	433578	743
744	553536	411830784	27.2764	9.0613	2337.3	434746	744
745	555025	413493625	27.2947	9.0654	2340.5	435916	745
746	556516	415160936	27.3130	9.0694	2343.6	437087	746
747	558009	416832723	27.3313	9.0735	2346.8	438259	747
748	559504	418508992	27.3496	9.0775	2349.9	439433	748
749	561001	420189749	27.3679	9.0816	2353.1	440609	749

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

| No. | Square | Cube | Square Root | Cube Root | No. = Diam. | | No. |
					Circum.	Area	
750	562500	421875000	27.3861	9.0856	2356.2	441786	750
751	564001	423564751	27.4044	9.0896	2359.3	442965	751
752	565504	425259008	27.4226	9.0937	2362.5	444146	752
753	567009	426957777	27.4408	9.0977	2365.6	445328	753
754	568516	428661064	27.4591	9.1017	2368.8	446511	754
755	570025	430368875	27.4773	9.1057	2371.9	447697	755
756	571536	432081216	27.4955	9.1098	2375.0	448883	756
757	573049	433798093	27.5136	9.1138	2378.2	450072	757
758	574564	435519512	27.5318	9.1178	2381.3	451262	758
759	576081	437245479	27.5500	9.1218	2384.5	452453	759
760	577600	438976000	27.5681	9.1258	2387.6	453646	760
761	579121	440711081	27.5862	9.1298	2390.8	454841	761
762	580644	442450728	27.6043	9.1338	2393.9	456037	762
763	582169	444194947	27.6225	9.1378	2397.0	457234	763
764	583696	445943744	27.6405	9.1418	2400.2	458434	764
765	585225	447697125	27.6586	9.1458	2403.3	459635	765
766	586756	449455096	27.6767	9.1498	2406.5	460837	766
767	588289	451217663	27.6948	9.1537	2409.6	462042	767
768	589824	452984832	27.7128	9.1577	2412.7	463247	768
769	591361	454756609	27.7308	9.1617	2415.9	464454	769
770	592900	456533000	27.7489	9.1657	2419.0	465663	770
771	594441	458314011	27.7669	9.1696	2422.2	466873	771
772	595984	460099648	27.7849	9.1736	2425.3	468085	772
773	597529	461889917	27.8029	9.1775	2428.5	469298	773
774	599076	463684824	27.8209	9.1815	2431.6	470513	774
775	600625	465484375	27.8388	9.1855	2434.7	471730	775
776	602176	467288576	27.8568	9.1894	2437.9	472948	776
777	603729	469097433	27.8747	9.1933	2441.0	474168	777
778	605284	470910952	27.8927	9.1973	2444.2	475389	778
779	606841	472729139	27.9106	9.2012	2447.3	476612	779
780	608400	474552000	27.9285	9.2052	2450.4	477836	780
781	609961	476379541	27.9464	9.2091	2453.6	479062	781
782	611524	478211768	27.9643	9.2130	2456.7	480290	782
783	613089	480048687	27.9821	9.2170	2459.9	481519	783
784	614656	481890304	28.0000	9.2209	2463.0	482750	784
785	616225	483736625	28.0179	9.2248	2466.2	483982	785
786	617796	485587656	28.0357	9.2287	2469.3	485216	786
787	619369	487443403	28.0535	9.2326	2472.4	486451	787
788	620944	489303872	28.0713	9.2365	2475.6	487688	788
789	622521	491169069	28.0891	9.2404	2478.7	488927	789
790	624100	493039000	28.1069	9.2443	2481.9	490167	790
791	625681	494913671	28.1247	9.2482	2485.0	491409	791
792	627264	496793088	28.1425	9.2521	2488.1	492652	792
793	628849	498677257	28.1603	9.2560	2491.3	493897	793
794	630436	500566184	28.1780	9.2599	2494.4	495143	794
795	632025	502459875	28.1957	9.2638	2497.6	496391	795
796	633616	504358336	28.2135	9.2677	2500.7	497641	796
797	635209	506261573	28.2312	9.2716	2503.8	498892	797
798	636804	508169592	28.2489	9.2754	2507.0	500145	798
799	638401	510082399	28.2666	9.2793	2510.1	501399	799

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

| No. | Square | Cube | Square Root | Cube Root | No. = Diam. | | No. |
					Circum.	Area	
800	640000	512000000	28.2843	9.2832	2513.3	502655	800
801	641601	513922401	28.3019	9.2870	2516.4	503912	801
802	643204	515849608	28.3196	9.2909	2519.6	505171	802
803	644809	517781627	28.3373	9.2948	2522.7	506432	803
804	646416	519718464	28.3549	9.2986	2525.8	507694	804
805	648025	521660125	28.3725	9.3025	2529.0	508958	805
806	649636	523606616	28.3901	9.3063	2532.1	510223	806
807	651249	525557943	28.4077	9.3102	2535.3	511490	807
808	652864	527514112	28.4253	9.3140	2538.4	512758	808
809	654481	529475129	28.4429	9.3179	2541.5	514028	809
810	656100	531441000	28.4605	9.3217	2544.7	515300	810
811	657721	533411731	23.4781	9.3255	2547.8	516573	811
812	659344	535387328	28.4956	9.3294	2551.0	517848	812
813	660969	537367797	28.5132	9.3332	2554.1	519124	813
814	662596	539353144	28.5307	9.3370	2557.3	520402	814
815	664225	541343375	28.5482	9.3408	2560.4	521681	815
816	665856	543338496	28.5657	9.3447	2563.5	522962	816
817	667489	545338513	28.5832	9.3485	2566.7	524245	817
818	669124	547343432	28.6007	9.3523	2569.8	525529	818
819	670761	549353259	28.6182	9.3561	2573.0	526814	819
820	672400	551368000	28.6356	9.3599	2576.1	528102	820
821	674041	553387661	28.6531	9.3637	2579.2	529391	821
822	675684	555412248	28.6705	9.3675	2582.4	530681	822
823	677329	557441767	28.6880	9.3713	2585.5	531973	823
824	678976	559476224	28.7054	9.3751	2588.7	533267	824
825	680625	561515625	28.7228	9.3789	2591.8	534562	825
826	682276	563559976	28.7402	9.3827	2595.0	535858	826
827	683929	565609283	28.7576	9.3865	2598.1	537157	827
828	685584	567663552	28.7750	9.3902	2601.2	538456	828
829	687241	569722789	28.7924	9.3940	2604.4	539758	829
830	688900	571787000	28.8097	9.3978	2607.5	541061	830
831	690561	573856191	28.8271	9.4016	2610.7	542365	831
832	692224	575930368	28.8444	9.4053	2613.8	543671	832
833	693889	578009537	28.8617	9.4091	2616.9	544979	833
834	695556	580093704	28.8791	9.4129	2620.1	546288	834
835	697225	582182875	28.8964	9.4166	2623.2	547599	835
836	698896	584277056	28.9137	9.4204	2626.4	548912	836
837	700569	586376253	28.9310	9.4241	2629.5	550226	837
838	702244	588480472	28.9482	9.4279	2632.7	551541	838
839	703921	590589719	28.9655	9.4316	2635.8	552858	839
840	705600	592704000	28.9828	9.4354	2638.9	554177	840
841	707281	594823321	29.0000	9.4391	2642.1	555497	841
842	708964	596947688	29.0172	9.4429	2645.2	556819	842
843	710649	599077107	29.0345	9.4466	2648.4	558142	843
844	712336	601211584	29.0517	9.4503	2651.5	559467	844
845	714025	603351125	29.0689	9.4541	2654.6	560794	845
846	715716	605495736	29.0861	9.4578	2657.8	562122	846
847	717409	607645423	29.1033	9.4615	2660.9	563452	847
848	719104	609800192	29.1204	9.4652	2664.1	564783	848
849	720801	611960049	29.1376	9.4690	2667.2	566116	849

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

| No. | Square | Cube | Square Root | Cube Root | No. = Diam. | | No. |
					Circum.	Area	
850	722500	614125000	29.1548	9.4727	2670.4	567450	850
851	724201	616295051	29.1719	9.4764	2673.5	568786	851
852	725904	618470208	29.1890	9.4801	2676.6	570124	852
853	727609	620650477	29.2062	9.4838	2679.8	571463	853
854	729316	622835864	29.2233	9.4875	2682.9	572803	854
855	731025	625026375	29.2404	9.4912	2686.1	574146	855
856	732736	627222016	29.2575	9.4949	2689.2	575490	856
857	734449	629422793	29.2746	9.4986	2692.3	576835	857
858	736164	631628712	29.2916	9.5023	2695.5	578182	858
859	737881	633839779	29.3087	9.5060	2698.6	579530	859
860	739600	636056000	29.3258	9.5097	2701.8	580880	860
861	741321	638277381	29.3428	9.5134	2704.9	582232	861
862	743044	640503928	29.3598	9.5171	2708.1	583585	862
863	744769	642735647	29.3769	9.5207	2711.2	584940	863
864	746496	644972544	29.3939	9.5244	2714.3	586297	864
865	748225	647214625	29.4109	9.5281	2717.5	587655	865
866	749956	649461896	29.4279	9.5317	2720.6	589014	866
867	751689	651714363	29.4449	9.5354	2723.8	590375	867
868	753424	653972032	29.4618	9.5391	2726.9	591738	868
869	755161	656234909	29.4788	9.5427	2730.0	593102	869
870	756900	658503000	29.4958	9.5464	2733.2	594468	870
871	758641	660776311	29.5127	9.5501	2736.3	595835	871
872	760384	663054848	29.5296	9.5537	2739.5	597204	872
873	762129	665338617	29.5466	9.5574	2742.6	598575	873
874	763876	667627624	29.5635	9.5610	2745.8	599947	874
875	765625	669921875	29.5804	9.5647	2748.9	601320	875
876	767376	672221376	29.5973	9.5683	2752.0	602696	876
877	769129	674526133	29.6142	9.5719	2755.2	604073	877
878	770884	676836152	29.6311	9.5756	2758.3	605451	878
879	772641	679151439	29.6479	9.5792	2761.5	606831	879
880	774400	681472000	29.6648	9.5828	2764.6	608212	880
881	776161	683797841	29.6816	9.5865	2767.7	609595	881
882	777924	686128968	29.6985	9.5901	2770.9	610980	882
883	779689	688465387	29.7153	9.5937	2774.0	612366	883
884	781456	690807104	29.7321	9.5973	2777.2	613754	884
885	783225	693154125	29.7489	9.6010	2780.3	615143	885
886	784996	695506456	29.7658	9.6046	2783.5	616534	886
887	786769	697864103	29.7825	9.6082	2786.6	617927	887
888	788544	700227072	29.7993	9.6118	2789.7	619321	888
889	790321	702595369	29.8161	9.6154	2792.9	620717	889
890	792100	704969000	29.8329	9.6190	2796.0	622114	890
891	793881	707347971	29.8496	9.6226	2799.2	623513	891
892	795664	709732288	29.8664	9.6262	2802.3	624913	892
893	797449	712121957	29.8831	9.6298	2805.4	626315	893
894	799236	714516984	29.8998	9.6334	2808.6	627718	894
895	801025	716917375	29.9166	9.6370	2811.7	629124	895
896	802816	719323136	29.9333	9.6406	2814.9	630530	896
897	804609	721734273	29.9500	9.6442	2818.0	631938	897
898	806404	724150792	29.9666	9.6477	2821.2	633348	898
899	808201	726572699	29.9833	9.6513	2824.3	634760	899

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

| No. | Square | Cube | Square Root | Cube Root | No. = Diam. | | No. |
					Circum.	Area	
900	810000	729000000	30.0000	9.6549	2827.4	636173	900
901	811801	731432701	30.0167	9.6585	2830.6	637587	901
902	813604	733870808	30.0333	9.6620	2833.7	639003	902
903	815409	736314327	30.0500	9.6656	2836.9	640421	903
904	817216	738763264	30.0666	9.6692	2840.0	641840	904
905	819025	741217625	30.0832	9.6727	2843.1	643261	905
906	820836	743677416	30.0998	9.6763	2846.3	644683	906
907	822649	746142643	30.1164	9.6799	2849.4	646107	907
908	824464	748613312	30.1330	9.6834	2852.6	647533	908
909	826281	751089429	30.1496	9.6870	2855.7	648960	909
910	828100	753571000	30.1662	9.6905	2858.8	650388	910
911	829921	756058031	30.1828	9.6941	2862.0	651818	911
912	831744	758550528	30.1993	9.6976	2865.1	653250	912
913	833569	761048497	30.2159	9.7012	2868.3	654684	913
914	835396	763551944	30.2324	9.7047	2871.4	656118	914
915	837225	766060875	30.2490	9.7082	2874.6	657555	915
916	839056	768575296	30.2655	9.7118	2877.7	658993	916
917	840889	771095213	30.2820	9.7153	2880.8	660433	917
918	842724	773620632	30.2985	9.7188	2884.0	661874	918
919	844561	776151559	30.3150	9.7224	2887.1	663317	919
920	846400	778688000	30.3315	9.7259	2890.3	664761	920
921	848241	781229961	30.3480	9.7294	2893.4	666207	921
922	850084	783777448	30.3645	9.7329	2896.5	667654	922
923	851929	786330467	30.3809	9.7364	2899.7	669103	923
924	853776	788889024	30.3974	9.7400	2902.8	670554	924
925	855625	791453125	30.4138	9.7435	2906.0	672006	925
926	857476	794022776	30.4302	9.7470	2909.1	673460	926
927	859329	796597983	30.4467	9.7505	2912.3	674915	927
928	861184	799178752	30.4631	9.7540	2915.4	676372	928
929	863041	801765089	30.4795	9.7575	2918.5	677831	929
930	864900	804357000	30.4959	9.7610	2921.7	679291	930
931	866761	806954491	30.5123	9.7645	2924.8	680752	931
932	868624	809557568	30.5287	9.7680	2928.0	682216	932
933	870489	812166237	30.5450	9.7715	2931.1	683680	933
934	872356	814780504	30.5614	9.7750	2934.2	685147	934
935	874225	817400375	30.5778	9.7785	2937.4	686615	935
936	876096	820025856	30.5941	9.7819	2940.5	688084	936
937	877969	822656953	30.6105	9.7854	2943.7	689555	937
938	879844	825293672	30.6268	9.7889	2946.8	691028	938
939	881721	827936019	30.6431	9.7924	2950.0	692502	939
940	883600	830584000	30.6594	9.7959	2953.1	693978	940
941	885481	833237621	30.6757	9.7993	2956.2	695455	941
942	887364	835896888	30.6920	9.8028	2959.4	696934	942
943	889249	838561807	30.7083	9.8063	2962.5	698415	943
944	891136	841232384	30.7246	9.8097	2965.7	699897	944
945	893025	843908625	30.7409	9.8132	2968.8	701380	945
946	894916	846590536	30.7571	9.8167	2971.9	702865	946
947	896809	849278123	30.7734	9.8201	2975.1	704352	947
948	898704	851971392	30.7896	9.8236	2978.2	705840	948
949	900601	854670349	30.8058	9.8270	2981.4	707330	949

TABLE II. — POWERS, ROOTS, CIRCUMFERENCES AND AREAS

No.	Square	Cube	Square Root	Cube Root	No. = Diam. Circum.	No. = Diam. Area	No.
950	902500	857375000	30.8221	9.8305	2984.5	708822	950
951	904401	860085351	30.8383	9.8339	2987.7	710315	951
952	906304	862801408	30.8545	9.8374	2990.8	711809	952
953	908209	865523177	30.8707	9.8408	2993.9	713306	953
954	910116	868250664	30.8869	9.8443	2997.1	714803	954
955	912025	870983875	30.9031	9.8477	3000.2	716303	955
956	913936	873722816	30.9192	9.8511	3003.4	717804	956
957	915849	876467493	30.9354	9.8546	3006.5	719306	957
958	917764	879217912	30.9516	9.8580	3009.6	720810	958
959	919681	881974079	30.9677	9.8614	3012.8	722316	959
960	921600	884736000	30.9839	9.8648	3015.9	723823	960
961	923521	887503681	31.0000	9.8683	3019.1	725332	961
962	925444	890277128	31.0161	9.8717	3022.2	726842	962
963	927369	893056347	31.0322	9.8751	3025.4	728354	963
964	929296	895841344	31.0483	9.8785	3028.5	729867	964
965	931225	898632125	31.0644	9.8819	3031.6	731382	965
966	933156	901428696	31.0805	9.8854	3034.8	732899	966
967	935089	904231063	31.0966	9.8888	3037.9	734417	967
968	937024	907039232	31.1127	9.8922	3041.1	735937	968
969	938961	909853209	31.1288	9.8956	3044.2	737458	969
970	940900	912673000	31.1448	9.8990	3047.3	738981	970
971	942841	915498611	31.1609	9.9024	3050.5	740506	971
972	944784	918330048	31.1769	9.9058	3053.6	742032	972
973	946729	921167317	31.1929	9.9092	3056.8	743559	973
974	948676	924010424	31.2090	9.9126	3059.9	745088	974
975	950625	926859375	31.2250	9.9160	3063.1	746619	975
976	952576	929714176	31.2410	9.9194	3066.2	748151	976
977	954529	932574833	31.2570	9.9227	3069.3	749685	977
978	956484	935441352	31.2730	9.9261	3072.5	751221	978
979	958441	938313739	31.2890	9.9295	3075.6	752758	979
980	960400	941192000	31.3050	9.9329	3078.8	754296	980
981	962361	944076141	31.3209	9.9363	3081.9	755837	981
982	964324	946966168	31.3369	9.9396	3085.0	757378	982
983	966289	949862087	31.3528	9.9430	3088.2	758922	983
984	968256	952763904	31.3688	9.9464	3091.3	760466	984
985	970225	955671625	31.3847	9.9497	3094.5	762013	985
986	972196	958585256	31.4006	9.9531	3097.6	763561	986
987	974169	961504803	31.4166	9.9565	3100.8	765111	987
988	976144	964430272	31.4325	9.9598	3103.9	766662	988
989	978121	967361669	31.4484	9.9632	3107.0	768214	989
990	980100	970299000	31.4643	9.9666	3110.2	769769	990
991	982081	973242271	31.4802	9.9699	3113.3	771325	991
992	984064	976191488	31.4960	9.9733	3116.5	772882	992
993	986049	979146657	31.5119	9.9766	3119.6	774441	993
994	988036	982107784	31.5278	9.9800	3122.7	776002	994
995	990025	985074875	31.5436	9.9833	3125.9	777564	995
996	992016	988047936	31.5595	9.9866	3129.0	779128	996
997	994009	991026973	31.5753	9.9900	3132.2	780693	997
998	996004	994011992	31.5911	9.9933	3135.3	782260	998
999	998001	997002999	31.6070	9.9967	3138.5	783828	999

TABLE III. — LOGARITHMS OF NUMBERS

No.	0	1	2	3	4	5	6	7	8	9
100	00 000	00 043	00 087	00 130	00 173	00 217	00 260	00 303	00 346	00 389
101	00 432	00 475	00 518	00 561	00 604	00 647	00 689	00 732	00 775	00 817
102	00 860	00 903	00 945	00 988	01 030	01 072	01 115	01 157	01 199	01 242
103	01 284	01 326	01 368	01 410	01 452	01 494	01 536	01 578	01 620	01 662
104	01 703	01 745	01 787	01 828	01 870	01 912	01 953	01 995	02 036	02 078
105	02 119	02 160	02 202	02 243	02 284	02 325	02 366	02 407	02 449	02 490
106	02 531	02 572	02 612	02 653	02 694	02 735	02 776	02 816	02 857	02 898
107	02 938	02 979	03 019	03 060	03 100	03 141	03 181	03 222	03 262	03 302
108	03 342	03 383	03 423	03 463	03 503	03 543	03 583	03 623	03 663	03 703
109	03 743	03 782	03 822	03 862	03 902	03 941	03 981	04 021	04 060	04 100
110	04 139	04 179	04 218	04 258	04 297	04 336	04 376	04 415	04 454	04 493
111	04 532	04 571	04 610	04 650	04 689	04 727	04 766	04 805	04 844	04 883
112	04 922	04 961	04 999	05 038	05 077	05 115	05 154	05 192	05 231	05 269
113	05 308	05 346	05 385	05 423	05 461	05 500	05 538	05 576	05 614	05 652
114	05 690	05 729	05 767	05 805	05 843	05 881	05 918	05 956	05 994	06 032
115	06 070	06 108	06 145	06 183	06 221	06 258	06 296	06 333	06 371	06 408
116	06 446	06 483	06 521	06 558	06 595	06 633	06 670	06 707	06 744	06 781
117	06 819	06 856	06 893	06 930	06 967	07 004	07 041	07 078	07 115	07 151
118	07 188	07 225	07 262	07 298	07 335	07 372	07 408	07 445	07 482	07 518
119	07 555	07 591	07 628	07 664	07 700	07 737	07 773	07 809	07 846	07 882
120	07 918	07 954	07 990	08 027	08 063	08 099	08 135	08 171	08 207	08 243
121	08 279	08 314	08 350	08 386	08 422	08 458	08 493	08 529	08 565	08 600
122	08 636	08 672	08 707	08 743	08 778	08 814	08 849	08 884	08 920	08 955
123	08 991	09 026	09 061	09 096	09 132	09 167	09 202	09 237	09 272	09 307
124	09 342	09 377	09 412	09 447	09 482	09 517	09 552	09 587	09 621	09 656
125	09 691	09 726	09 760	09 795	09 830	09 864	09 899	09 934	09 968	10 003
126	10 037	10 072	10 106	10 140	10 175	10 209	10 243	10 278	10 312	10 346
127	10 380	10 415	10 449	10 483	10 517	10 551	10 585	10 619	10 653	10 687
128	10 721	10 755	10 789	10 823	10 857	10 890	10 924	10 958	10 992	11 025
129	11 059	11 093	11 126	11 160	11 193	11 227	11 261	11 294	11 327	11 361
130	11 394	11 428	11 461	11 494	11 528	11 561	11 594	11 628	11 661	11 694
131	11 727	11 760	11 793	11 826	11 860	11 893	11 926	11 959	11 992	12 024
132	12 057	12 090	12 123	12 156	12 189	12 222	12 254	12 287	12 320	12 352
133	12 385	12 418	12 450	12 483	12 516	12 548	12 581	12 613	12 646	12 678
134	12 710	12 743	12 775	12 808	12 840	12 872	12 905	12 937	12 969	13 001
135	13 033	13 066	13 098	13 130	13 162	13 194	13 226	13 258	13 290	13 322
136	13 354	13 386	13 418	13 450	13 481	13 513	13 545	13 577	13 609	13 640
137	13 672	13 704	13 735	13 767	13 799	13 830	13 862	13 893	13 925	13 956
138	13 988	14 019	14 051	14 082	14 114	14 145	14 176	14 208	14 239	14 270
139	14 301	14 333	14 364	14 395	14 426	14 457	14 489	14 520	14 551	14 582
140	14 613	14 644	14 675	14 706	14 737	14 768	14 799	14 829	14 860	14 891
141	14 922	14 953	14 983	15 014	15 045	15 076	15 106	15 137	15 168	15 198
142	15 229	15 259	15 290	15 320	15 351	15 381	15 412	15 442	15 473	15 503
143	15 534	15 564	15 594	15 625	15 655	15 685	15 715	15 746	15 776	15 806
144	15 836	15 866	15 897	15 927	15 957	15 987	16 017	16 047	16 077	16 107
145	16 137	16 167	16 197	16 227	16 256	16 286	16 316	16 346	16 376	16 406
146	16 435	16 465	16 495	16 524	16 554	16 584	16 613	16 643	16 673	16 702
147	16 732	16 761	16 791	16 820	16 850	16 879	16 909	16 938	16 967	16 997
148	17 026	17 056	17 085	17 114	17 143	17 173	17 202	17 231	17 260	17 289
149	17 319	17 348	17 377	17 406	17 435	17 464	17 493	17 522	17 551	17 580
150	17 609	17 638	17 667	17 696	17 725	17 754	17 782	17 811	17 840	17 869

TABLE III. — LOGARITHMS OF NUMBERS

No.	0	1	2	3	4	5	6	7	8	9
150	17 609	17 638	17 667	17 696	17 725	17 754	17 782	17 811	17 840	17 869
151	17 898	17 926	17 955	17 984	18 013	18 041	18 070	18 099	18 127	18 156
152	18 184	18 213	18 241	18 270	18 298	18 327	18 355	18 384	18 412	18 441
153	18 469	18 498	18 526	18 554	18 583	18 611	18 639	18 667	18 696	18 724
154	18 752	18 780	18 808	18 837	18 865	18 893	18 921	18 949	18 977	19 005
155	19 033	19 061	19 089	19 117	19 145	19 173	19 201	19 229	19 257	19 285
156	19 312	19 340	19 368	19 396	19 424	19 451	19 479	19 507	19 535	19 562
157	19 590	19 618	19 645	19 673	19 700	19 728	19 756	19 783	19 811	19 838
158	19 866	19 893	19 921	19 948	19 976	20 003	20 030	20 058	20 085	20 112
159	20 140	20 167	20 194	20 222	20 249	20 276	20 303	20 330	20 358	20 385
160	20 412	20 439	20 466	20 493	20 520	20 548	20 575	20 602	20 629	20 656
161	20 683	20 710	20 737	20 763	20 790	20 817	20 844	20 871	20 898	20 925
162	20 952	20 978	21 005	21 032	21 059	21 085	21 112	21 139	21 165	21 192
163	21 219	21 245	21 272	21 299	21 325	21 352	21 378	21 405	21 431	21 458
164	21 484	21 511	21 537	21 564	21 590	21 617	21 643	21 669	21 696	21 722
165	21 748	21 775	21 801	21 827	21 854	21 880	21 906	21 932	21 958	21 985
166	22 011	22 037	22 063	22 089	22 115	22 141	22 167	22 194	22 220	22 246
167	22 272	22 298	22 324	22 350	22 376	22 401	22 427	22 453	22 479	22 505
168	22 531	22 557	22 583	22 608	22 634	22 660	22 686	22 712	22 737	22 763
169	22 789	22 814	22 840	22 866	22 891	22 917	22 943	22 968	22 994	23 019
170	23 045	23 070	23 096	23 121	23 147	23 172	23 198	23 223	23 249	23 274
171	23 300	23 325	23 350	23 376	23 401	23 426	23 452	23 477	23 502	23 528
172	23 553	23 578	23 603	23 629	23 654	23 679	23 704	23 729	23 754	23 779
173	23 805	23 830	23 855	23 880	23 905	23 930	23 955	23 980	24 005	24 030
174	24 055	24 080	24 105	24 130	24 155	24 180	24 204	24 229	24 254	24 279
175	24 304	24 329	24 353	24 378	24 403	24 428	24 452	24 477	24 502	24 527
176	24 551	24 576	24 601	24 625	24 650	24 674	24 699	24 724	24 748	24 773
177	24 797	24 822	24 846	24 871	24 895	24 920	24 944	24 969	24 993	25 018
178	25 042	25 066	25 091	25 115	25 139	25 164	25 188	25 212	25 237	25 261
179	25 285	25 310	25 334	25 358	25 382	25 406	25 431	25 455	25 479	25 503
180	25 527	25 551	25 575	25 600	25 624	25 648	25 672	25 696	25 720	25 744
181	25 768	25 792	25 816	25 840	25 864	25 888	25 912	25 935	25 959	25 983
182	26 007	26 031	26 055	26 079	26 102	26 126	26 150	26 174	26 198	26 221
183	26 245	26 269	26 293	26 316	26 340	26 364	26 387	26 411	26 435	26 458
184	26 482	26 505	26 529	26 553	26 576	26 600	26 623	26 647	26 670	26 694
185	26 717	26 741	26 764	26 788	26 811	26 834	26 858	26 881	26 905	26 928
186	26 951	26 975	26 998	27 021	27 045	27 068	27 091	27 114	27 138	27 161
187	27 184	27 207	27 231	27 254	27 277	27 300	27 323	27 346	27 370	27 393
188	27 416	27 439	27 462	27 485	27 508	27 531	27 554	27 577	27 600	27 623
189	27 646	27 669	27 692	27 715	27 738	27 761	27 784	27 807	27 830	27 852
190	27 875	27 898	27 921	27 944	27 967	27 989	28 012	28 035	28 058	28 081
191	28 103	28 126	28 149	28 171	28 194	28 217	28 240	28 262	28 285	28 307
192	28 330	28 353	28 375	28 398	28 421	28 443	28 466	28 488	28 511	28 533
193	28 556	28 578	28 601	28 623	28 646	28 668	28 691	28 713	28 735	28 758
194	28 780	28 803	28 825	28 847	28 870	28 892	28 914	28 937	28 959	28 981
195	29 003	29 026	29 048	29 070	29 092	29 115	29 137	29 159	29 181	29 203
196	29 226	29 248	29 270	29 292	29 314	29 336	29 358	29 380	29 403	29 425
197	29 447	29 469	29 491	29 513	29 535	29 557	29 579	29 601	29 623	29 645
198	29 667	29 688	29 710	29 732	29 754	29 776	29 798	29 820	29 842	29 863
199	29 885	29 907	29 929	29 951	29 973	29 994	30 016	30 038	30 060	30 081
200	30 103	30 125	30 146	30 168	30 190	30 211	30 233	30 255	30 276	30 298

TABLE III. — LOGARITHMS OF NUMBERS

No.	0	1	2	3	4	5	6	7	8	9
900	95 424	95 429	95 434	95 439	95 444	95 448	95 453	95 458	95 463	95 468
901	95 472	95 477	95 482	95 487	95 492	95 497	95 501	95 506	95 511	95 516
902	95 521	95 525	95 530	95 535	95 540	95 545	95 550	95 554	95 559	95 564
903	95 569	95 574	95 578	95 583	95 588	95 593	95 598	95 602	95 607	95 612
904	95 617	95 622	95 626	95 631	95 636	95 641	95 646	95 650	95 655	95 660
905	95 665	95 670	95 674	95 679	95 684	95 689	95 694	95 698	95 703	95 708
906	95 713	95 718	95 722	95 727	95 732	95 737	95 742	95 746	95 751	95 756
907	95 761	95 766	95 770	95 775	95 780	95 785	95 789	95 794	95 799	95 804
908	95 809	95 813	95 818	95 823	95 828	95 832	95 837	95 842	95 847	95 852
909	95 856	95 861	95 866	95 871	95 875	95 880	95 885	95 890	95 895	95 899
910	95 904	95 909	95 914	95 918	95 923	95 928	95 933	95 938	95 942	95 947
911	95 952	95 957	95 961	95 966	95 971	95 976	95 980	95 985	95 990	95 995
912	95 999	96 004	96 009	96 014	96 019	96 023	96 028	96 033	96 038	96 042
913	96 047	96 052	96 057	96 061	96 066	96 071	96 076	96 080	96 085	96 090
914	96 095	96 099	96 104	96 109	96 114	96 118	96 123	96 128	96 133	96 137
915	96 142	96 147	96 152	96 156	96 161	96 166	96 171	96 175	96 180	96 185
916	96 190	96 194	96 199	96 204	96 209	96 213	96 218	96 223	96 227	96 232
917	96 237	96 242	96 246	96 251	96 256	96 261	96 265	96 270	96 275	96 280
918	96 284	96 289	96 294	96 298	96 303	96 308	96 313	96 317	96 322	96 327
919	96 332	96 336	96 341	96 346	96 350	96 355	96 360	96 365	96 369	96 374
920	96 379	96 384	96 388	96 393	96 398	96 402	96 407	96 412	96 417	96 421
921	96 426	96 431	96 435	96 440	96 445	96 450	96 454	96 459	96 464	96 468
922	96 473	96 478	96 483	96 487	96 492	96 497	96 501	96 506	96 511	96 515
923	96 520	96 525	96 530	96 534	96 539	96 544	96 548	96 553	96 558	96 562
924	96 567	96 572	96 577	96 581	96 586	96 591	96 595	96 600	96 605	96 609
925	96 614	96 619	96 624	96 628	96 633	96 638	96 642	96 647	96 652	96 656
926	96 661	96 666	96 670	96 675	96 680	96 685	96 689	96 694	96 699	96 703
927	96 708	96 713	96 717	96 722	96 727	96 731	96 736	96 741	96 745	96 750
928	96 755	96 759	96 764	96 769	96 774	96 778	96 783	96 788	96 792	96 797
929	96 802	96 806	96 811	96 816	96 820	96 825	96 830	96 834	96 839	96 844
930	96 848	96 853	96 858	96 862	96 867	96 872	96 876	96 881	96 886	96 890
931	96 895	96 900	96 904	96 909	96 914	96 918	96 923	96 928	96 932	96 937
932	96 942	96 946	96 951	96 956	96 960	96 965	96 970	96 974	96 979	96 984
933	96 988	96 993	96 997	97 002	97 007	97 011	97 016	97 021	97 025	97 030
934	97 035	97 039	97 044	97 049	97 053	97 058	97 063	97 067	97 072	97 077
935	97 081	97 086	97 090	97 095	97 100	97 104	97 109	97 114	97 118	97 123
936	97 128	97 132	97 137	97 142	97 146	97 151	97 155	97 160	97 165	97 169
937	97 174	97 179	97 183	97 188	97 192	97 197	97 202	97 206	97 211	97 216
938	97 220	97 225	97 230	97 234	97 239	97 243	97 248	97 253	97 257	97 262
939	97 267	97 271	97 276	97 280	97 285	97 290	97 294	97 299	97 304	97 308
940	97 313	97 317	97 322	97 327	97 331	97 336	97 340	97 345	97 350	97 354
941	97 359	97 364	97 368	97 373	97 377	97 382	97 387	97 391	97 396	97 400
942	97 405	97 410	97 414	97 419	97 424	97 428	97 433	97 437	97 442	97 447
943	97 451	97 456	97 460	97 465	97 470	97 474	97 479	97 483	97 488	97 493
944	97 497	97 502	97 506	97 511	97 516	97 520	97 525	97 529	97 534	97 539
945	97 543	97 548	97 552	97 557	97 562	97 566	97 571	97 575	97 580	97 585
946	97 589	97 594	97 598	97 603	97 607	97 612	97 617	97 621	97 626	97 630
947	97 635	97 640	97 644	97 649	97 653	97 658	97 663	97 667	97 672	97 676
948	97 681	97 685	97 690	97 695	97 699	97 704	97 708	97 713	97 717	97 722
949	97 727	97 731	97 736	97 740	97 745	97 749	97 754	97 759	97 763	97 768
950	97 772	97 777	97 782	97 786	97 791	97 795	97 800	97 804	97 809	97 813

TABLE III. — LOGARITHMS OF NUMBERS

No.	0	1	2	3	4	5	6	7	8	9
950	97 772	97 777	97 782	97 786	97 791	97 795	97 800	97 804	97 809	97 813
951	97 818	97 823	97 827	97 832	97 836	97 841	97 845	97 850	97 855	97 859
952	97 864	97 868	97 873	97 877	97 882	97 886	97 891	97 896	97 900	97 905
953	97 909	97 914	97 918	97 923	97 928	97 932	97 937	97 941	97 946	97 950
954	97 955	97 959	97 964	97 968	97 973	97 978	97 982	97 987	97 991	97 996
955	98 000	98 005	98 009	98 014	98 019	98 023	98 028	98 032	98 037	98 041
956	98 046	98 050	98 055	98 059	98 064	98 068	98 073	98 078	98 082	98 087
957	98 091	98 096	98 100	98 105	98 109	98 114	98 118	98 123	98 127	98 132
958	98 137	98 141	98 146	98 150	98 155	98 159	98 164	98 168	98 173	98 177
959	98 182	98 186	98 191	98 195	98 200	98 204	98 209	98 214	98 218	98 223
960	98 227	98 232	98 236	98 241	98 245	98 250	98 254	98 259	98 263	98 268
961	98 272	98 277	98 281	98 286	98 290	98 295	98 299	98 304	98 308	98 313
962	98 318	98 322	98 327	98 331	98 336	98 340	98 345	98 349	98 354	98 358
963	98 363	98 367	98 372	98 376	98 381	98 385	98 390	98 394	98 399	98 403
964	98 408	98 412	98 417	98 421	98 426	98 430	98 435	98 439	98 444	98 448
965	98 453	98 457	98 462	98 466	98 471	98 475	98 480	98 484	98 489	98 493
966	98 498	98 502	98 507	98 511	98 516	98 520	98 525	98 529	98 534	98 538
967	98 543	98 547	98 552	98 556	98 561	98 565	98 570	98 574	98 579	98 583
968	98 588	98 592	98 597	98 601	98 605	98 610	98 614	98 619	98 623	98 628
969	98 632	98 637	98 641	98 646	98 650	98 655	98 659	98 664	98 668	98 673
970	98 677	98 682	98 686	98 691	98 695	98 700	98 704	98 709	98 713	98 717
971	98 722	98 726	98 731	98 735	98 740	98 744	98 749	98 753	98 758	98 762
972	98 767	98 771	98 776	98 780	98 784	98 789	98 793	98 798	98 802	98 807
973	98 811	98 816	98 820	98 825	98 829	98 834	98 838	98 843	98 847	98 851
974	98 856	98 860	98 865	98 869	98 874	98 878	98 883	98 887	98 892	98 896
975	98 900	98 905	98 909	98 914	98 918	98 923	98 927	98 932	98 936	98 941
976	98 945	98 949	98 954	98 958	98 963	98 967	98 972	98 976	98 981	98 985
977	98 989	98 994	98 998	99 003	99 007	99 012	99 016	99 021	99 025	99 029
978	99 034	99 038	99 043	99 047	99 052	99 056	99 061	99 065	99 069	99 074
979	99 078	99 083	99 087	99 092	99 096	99 100	99 105	99 109	99 114	99 118
980	99 123	99 127	99 131	99 136	99 140	99 145	99 149	99 154	99 158	99 162
981	99 167	99 171	99 176	99 180	99 185	99 189	99 193	99 198	99 202	99 207
982	99 211	99 216	99 220	99 224	99 229	99 233	99 238	99 242	99 247	99 251
983	99 255	99 260	99 264	99 269	99 273	99 277	99 282	99 286	99 291	99 295
984	99 300	99 304	99 308	99 313	99 317	99 322	99 326	99 330	99 335	99 339
985	99 344	99 348	99 352	99 357	99 361	99 366	99 370	99 374	99 379	99 383
986	99 388	99 392	99 396	99 401	99 405	99 410	99 414	99 419	99 423	99 427
987	99 432	99 436	99 441	99 445	99 449	90 454	99 458	99 463	99 467	99 471
988	99 476	99 480	99 484	99 489	99 493	99 498	99 502	99 506	99 511	99 515
989	99 520	99 524	99 528	99 533	99 537	99 542	99 546	99 550	99 555	99 559
990	99 564	99 568	99 572	99 577	99 581	99 585	99 590	99 594	99 599	99 603
991	99 607	99 612	99 616	99 621	99 625	99 629	99 634	99 638	99 642	99 647
992	99 651	99 656	99 660	99 664	99 669	99 673	99 677	99 682	99 686	99 691
993	99 695	99 699	99 704	99 708	99 712	99 717	99 721	99 726	99 730	99 734
994	99 739	99 743	99 747	99 752	99 756	99 760	99 765	99 769	99 774	99 778
995	99 782	99 787	99 791	99 795	99 800	99 804	99 808	99 813	99 817	99 822
996	99 826	99 830	99 835	99 839	99 843	99 848	99 852	99 856	99 861	99 865
997	99 870	99 874	99 878	99 883	99 887	99 891	99 896	99 900	99 904	99 909
998	99 913	99 917	99 922	99 926	99 930	99 935	99 939	99 944	99 948	99 952
999	99 957	99 961	99 965	99 970	99 974	99 978	99 983	99 987	99 991	99 996
1000	00 000	00 004	00 009	00 013	00 017	00 022	00 026	00 030	00 035	00 039

TABLE IV. — LOGARITHMIC SINES, COSINES,

	1°				2°				
'	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
0	8.24 186	8.24 192	1.75 808	9.99 993	8.54 282	8.54 308	1.45 692	9.99 974	60
1	8.24 903	8.24 910	1.75 090	9.99 993	8.54 642	8.54 669	1.45 331	9.99 973	59
2	8.25 609	8.25 616	1.74 384	9.99 993	8.54 999	8.55 027	1.44 973	9.99 973	58
3	8.26 304	8.26 312	1.73 688	9.99 993	8.55 354	8.55 382	1.44 618	9.99 972	57
4	8.26 988	8.26 996	1.73 004	9.99 992	8.55 705	8.55 734	1.44 266	9.99 972	56
5	8.27 661	8.27 669	1.72 331	9.99 992	8.56 054	8.56 083	1.43 917	9.99 971	55
6	8.28 324	8.28 332	1.71 668	9.99 992	8.56 400	8.56 429	1.43 571	9.99 971	54
7	8.28 977	8.28 986	1.71 014	9.99 992	8.56 743	8.56 773	1.43 227	9.99 970	53
8	8.29 621	8.29 629	1.70 371	9.99 992	8.57 084	8.57 114	1.42 886	9.99 970	52
9	8.30 255	8.30 263	1.69 737	9.99 991	8.57 421	8.57 452	1.42 548	9.99 969	51
10	8.30 879	8.30 888	1.69 112	9.99 991	8.57 757	8.57 788	1.42 212	9.99 969	50
11	8.31 495	8.31 505	1.68 495	9.99 991	8.58 089	8.58 121	1.41 879	9.99 968	49
12	8.32 103	8.32·112	1.67 888	9.99 990	8.58 419	8.58 451	1.41 549	9.99 968	48
13	8.32 702	8.32 711	1.67 289	9.99 990	8.58 747	8.58 779	1.41 221	9.99 967	47
14	8.33 292	8.33 302	1.66 698	9.99 990	8.59 072	8.59 105	1.40 895	9.99 967	46
15	8.33 875	8.33 886	1.66 114	9.99 990	8.59 395	8.59 428	1.40 572	9.99 967	45
16	8.34 450	8.34 461	1.65 539	9.99 989	8.59 715	8.59 749	1.40 251	9.99 966	44
17	8.35 018	8.35 029	1.64 971	9.99 989	8.60 033	8.60 068	1.39 932	9.99 966	43
18	8.35 578	8.35 590	1.64 410	9.99 989	8.60 349	8.60 384	1.39 616	9.99 965	42
19	8.36 131	8.36 143	1.63 857	9.99 989	8.60 662	8.60 698	1.39 302	9.99 964	41
20	8.36 678	8.36 689	1.63 311	9.99 988	8.60 973	8.61 009	1.38 991	9.99 964	40
21	8.37 217	8.37 229	1.62 771	9.99 988	8.61 282	8.61 319	1.38 681	9.99 963	39
22	8.37 750	8.37 762	1.62 238	9.99 988	8.61 589	8.61 626	1.38 374	9.99 963	38
23	8.38 276	8.38 289	1.61 711	9.99 987	8.61 894	8.61 931	1.38 069	9.99 962	37
24	8.38 796	8.38 809	1.61 191	9.99 987	8.62 196	8.62 234	1.37 766	9.99 962	36
25	8.39 310	8.39 323	1.60 677	9.99 987	8.62 497	8.62 535	1.37 465	9.99 961	35
26	8.39 818	8.39 832	1.60 168	9.99 986	8.62 795	8.62 834	1.37 166	9.99 961	34
27	8.40 320	8.40 334	1.59 666	9.99 986	8.63 091	8.63 131	1.36 869	9.99 960	33
28	8.40 816	8.40 830	1.59 170	9.99 986	8.63 385	8.63 426	1.36 574	9.99 960	32
29	8.41 307	8.41 321	1.58 679	9.99 985	8.63 678	8.63 718	1.36 282	9.99 959	31
30	8.41 792	8.41 807	1.58 193	9.99 985	8.63 968	8.64 009	1.35 991	9.99 959	30
31	8.42 272	8.42 287	1.57 713	9.99 985	8.64 256	8.64 298	1.35 702	9.99 958	29
32	8.42 746	8.42 762	1.57 238	9.99 984	8.64 543	8.64 585	1.35 415	9.99 958	28
33	8.43 216	8.43 232	1.56 768	9.99 984	8.64 827	8.64 870	1.35 130	9.99 957	27
34	8.43 680	8.43 696	1.56 304	9.99 984	8.65 110	8.65 154	1.34 846	9.99 956	26
35	8.44 139	8.44 156	1.55 844	9.99 983	8.65 391	8.65 435	1.34 565	9.99 956	25
36	8.44 594	8.44 611	1.55 389	9.99 983	8.65 670	8.65 715	1.34 285	9.99 955	24
37	8.45 044	8.45 061	1.54 939	9.99 983	8.65 947	8.65 993	1.34 007	9.99 955	23
38	8.45 489	8.45 507	1.54 493	9.99 982	8.66 223	8.66 269	1.33 731	9.99 954	22
39	8.45 930	8.45 948	1.54 052	9.99 982	8.66 497	8.66 543	1.33 457	9.99 954	21
40	8.46 366	8.46 385	1.53 615	9.99 982	8.66 769	8.66 816	1.33 184	9.99 953	20
41	8.46 799	8.46 817	1.53 183	9.99 981	8.67 039	8.67 087	1.32 913	9.99 952	19
42	8.47 226	8.47 245	1.52 755	9.99 981	8.67 308	8.67 356	1.32 644	9.99 952	18
43	8.47 650	8.47 669	1.52 331	9.99 981	8.67 575	8.67 624	1.32 376	9.99 951	17
44	8.48 069	8.48 089	1.51 911	9.99 980	8.67 841	8.67 890	1.32 110	9.99 951	16
45	8.48 485	8.48 505	1.51 495	9.99 980	8.68 104	8.68 154	1.31 846	9.99 950	15
46	8.48 896	8.48 917	1.51 083	9.99 979	8.68 367	8.68 417	1.31 583	9.99 949	14
47	8.49 304	8.49 325	1.50 675	9.99 979	8.68 627	8.68 678	1.31 322	9.99 949	13
48	8.49 708	8.49 729	1.50 271	9.99 979	8.68 886	8.68 938	1.31 062	9.99 948	12
49	8.50 108	8.50 130	1.49 870	9.99 978	8.69 144	8.69 196	1.30 804	9.99 948	11
50	8.50 504	8.50 527	1.49 473	9.99 978	8.69 400	8.69 453	1.30 547	9.99 947	10
51	8.50 897	8.50 920	1.49 080	9.99 977	8.69 654	8.69 708	1.30 292	9.99 946	9
52	8.51 287	8.51 310	1.48 690	9.99 977	8.69 907	8.69 962	1.30 038	9.99 946	8
53	8.51 673	8.51 696	1.48 304	9.99 977	8.70 159	8.70 214	1.29 786	9.99 945	7
54	8.52 055	8.52 079	1.47 921	9.99 976	8.70 409	8.70 465	1.29 535	9.99 944	6
55	8.52 434	8.52 459	1.47 541	9.99 976	8.70 658	8.70 714	1.29 286	9.99 944	5
56	8.52 810	8.52 835	1.47 165	9.99 975	8.70 905	8.70 962	1.29 038	9.99 943	4
57	8.53 183	8.53 208	1.46 792	9.99 975	8.71 151	8.71 208	1.28 792	9.99 942	3
58	8.53 552	8.53 578	1.46 422	9.99 974	8.71 395	8.71 453	1.28 547	9.99 942	2
59	8.53 919	8.53 945	1.46 055	9.99 974	8.71 638	8.71 697	1.28 303	9.99 941	1
60	8.54 282	8.54 308	1.45 692	9.99 974	8.71 880	8.71 940	1.28 060	9.99 940	0
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	'

88°	87°

40

′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
			3°				**4°**		
0	8.71 880	8.71 940	1.28 060	9.99 940	8.84 358	8.84 464	1.15 536	9.99 894	**60**
1	8.72 120	8.72 181	1.27 819	9.99 940	8.84 539	8.84 646	1.15 354	9.99 893	59
2	8.72 359	8.72 420	1.27 580	9.99 939	8.84 718	8.84 826	1.15 174	9.99 892	58
3	8.72 597	8.72 659	1.27 341	9.99 938	8.84 897	8.85 006	1.14 994	9.99 891	57
4	8.72 834	8.72 896	1.27 104	9.99 938	8.85 075	8.85 185	1.14 815	9.99 891	56
5	8.73 069	8.73 132	1.26 868	9.99 937	8.85 252	8.85 363	1.14 637	9.99 890	55
6	8.73 303	8.73 366	1.26 634	9.99 936	8.85 429	8.85 540	1.14 460	9.99 889	54
7	8.73 535	8.73 600	1.26 400	9.99 936	8.85 605	8.85 717	1.14 283	9.99 888	53
8	8.73 767	8.73 832	1.26 168	9.99 935	8.85 780	8.85 893	1.14 107	9.99 887	52
9	8.73 997	8.74 063	1.25 937	9.99 934	8.85 955	8.86 069	1.13 931	9.99 886	51
10	8.74 226	8.74 292	1.25 708	9.99 934	8.86 128	8.86 243	1.13 757	9.99 885	**50**
11	8.74 454	8.74 521	1.25 479	9.99 933	8.86 301	8.86 417	1.13 583	9.99 884	49
12	8.74 680	8.74 748	1.25 252	9.99 932	8.86 474	8.86 591	1.13 409	9.99 883	48
13	8.74 906	8.74 974	1.25 026	9.99 932	8.86 645	8.86 763	1.13 237	9.99 882	47
14	8.75 130	8.75 199	1.24 801	9.99 931	8.86 816	8.86 935	1.13 065	9.99 881	46
15	8.75 353	8.75 423	1.24 577	9.99 930	8.86 987	8.87 106	1.12 894	9.99 880	45
16	8.75 575	8.75 645	1.24 355	9.99 929	8.87 156	8.87 277	1.12 723	9.99 879	44
17	8.75 795	8.75 867	1.24 133	9.99 929	8.87 325	8.87 447	1.12 553	9.99 879	43
18	8.76 015	8.76 087	1.23 913	9.99 928	8.87 494	8.87 616	1.12 384	9.99 878	42
19	8.76 234	8.76 306	1.23 694	9.99 927	8.87 661	8.87 785	1.12 215	9.99 877	41
20	8.76 451	8.76 525	1.23 475	9.99 926	8.87 829	8.87 953	1.12 047	9.99 876	**40**
21	8.76 667	8.76 742	1.23 258	9.99 926	8.87 995	8.88 120	1.11 880	9.99 875	39
22	8.76 883	8.76 958	1.23 042	9.99 925	8.88 161	8.88 287	1.11 713	9.99 874	38
23	8.77 097	8.77 173	1.22 827	9.99 924	8.88 326	8.88 453	1.11 547	9.99 873	37
24	8.77 310	8.77 387	1.22 613	9.99 923	8.88 490	8.88 618	1.11 382	9.99 872	36
25	8.77 522	8.77 600	1.22 400	9.99 923	8.88 654	8.88 783	1.11 217	9.99 871	35
26	8.77 733	8.77 811	1.22 189	9.99 922	8.88 817	8.88 948	1.11 052	9.99 870	34
27	8.77 943	8.78 022	1.21 978	9.99 921	8.88 980	8.89 111	1.10 889	9.99 869	33
28	8.78 152	8.78 232	1.21 768	9.99 920	8.89 142	8.89 274	1.10 726	9.99 868	32
29	8.78 360	8.78 441	1.21 559	9.99 920	8.89 304	8.89 437	1.10 563	9.99 867	31
30	8.78 568	8.78 649	1.21 351	9.99 919	8.89 464	8.89 598	1.10 402	9.99 866	**30**
31	8.78 774	8.78 855	1.21 145	9.99 918	8.89 625	8.89 760	1.10 240	9.99 865	29
32	8.78 979	8.79 061	1.20 939	9.99 917	8.89 784	8.89 920	1.10 080	9.99 864	28
33	8.79 183	8.79 266	1.20 734	9.99 917	8.89 943	8.90 080	1.09 920	9.99 863	27
34	8.79 386	8.79 470	1.20 530	9.99 916	8.90 102	8.90 240	1.09 760	9.99 862	26
35	8.79 588	8.79 673	1.20 327	9.99 915	8.90 260	8.90 399	1.09 601	9.99 861	25
36	8.79 789	8.79 875	1.20 125	9.99 914	8.90 417	8.90 557	1.09 443	9.99 860	24
37	8.79 990	8.80 076	1.19 924	9.99 913	8.90 574	8.90 715	1.09 285	9.99 859	23
38	8.80 189	8.80 277	1.19 723	9.99 913	8.90 730	8.90 872	1.09 128	9.99 858	22
39	8.80 388	8.80 476	1.19 524	9.99 912	8.90 885	8.91 029	1.08 971	9.99 857	21
40	8.80 585	8.80 674	1.19 326	9.99 911	8.91 040	8.91 185	1.08 815	9.99 856	**20**
41	8.80 782	8.80 872	1.19 128	9.99 910	8.91 195	8.91 340	1.08 660	9.99 855	19
42	8.80 978	8.81 068	1.18 932	9.99 909	8.91 349	8.91 495	1.08 505	9.99 854	18
43	8.81 173	8.81 264	1.18 736	9.99 909	8.91 502	8.91 650	1.08 350	9.99 853	17
44	8.81 367	8.81 459	1.18 541	9.99 908	8.91 655	8.91 803	1.08 197	9.99 852	16
45	8.81 560	8.81 653	1.18 347	9.99 907	8.91 807	8.91 957	1.08 043	9.99 851	15
46	8.81 752	8.81 846	1.18 154	9.99 906	8.91 959	8.92 110	1.07 890	9.99 850	14
47	8.81 944	8.82 038	1.17 962	9.99 905	8.92 110	8.92 262	1.07 738	6.99 848	13
48	8.82 134	8.82 230	1.17 770	9.99 904	8.92 261	8.92 414	1.07 586	9.99 847	12
49	8.82 324	8.82 420	1.17 580	9.99 904	8.92 411	8.92 565	1.07 435	9.99 846	11
50	8.82 513	8.82 610	1.17 390	9.99 903	8.92 561	8.92 716	1.07 284	9.99 845	**10**
51	8.82 701	8.82 799	1.17 201	9.99 902	8.92 710	8.92 866	1.07 134	9.99 844	9
52	8.82 888	8.82 987	1.17 013	9.99 901	8.92 859	8.93 016	1.06 984	9.99 843	8
53	8.83 075	8.83 175	1.16 825	9.99 900	8.93 007	8.93 165	1.06 835	9.99 842	7
54	8.83 261	8.83 361	1.16 639	9.99 899	8.93 154	8.93 313	1.06 687	9.99 841	6
55	8.83 446	8.83 547	1.16 453	9.99 898	8.93 301	8.93 462	1.06 538	9.99 840	5
56	8.83 630	8.83 732	1.16 268	9.99 898	8.93 448	8.93 609	1.06 391	9.99 839	4
57	8.83 813	8.83 916	1.16 084	9.99 897	8.93 594	8.93 756	1.06 244	9.99 838	3
58	8.83 996	8.84 100	1.15 900	9.99 896	8.93 740	8.93 903	1.06 097	9.99 837	2
59	8.84 177	8.84 282	1.15 718	9.99 895	8.93 885	8.94 049	1.05 951	9.99 836	1
60	8.84 358	8.84 464	1.15 536	9.99 894	8.94 030	8.94 195	1.05 805	9.99 834	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′
			86°				**85°**		

TABLE IV. — LOGARITHMIC SINES, COSINES,

		5°				6°			
′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
0	8.94 030	8.94 195	1.05 805	9.99 834	9.01 923	9.02 162	0.97 838	9.99 761	**60**
1	8.94 174	8.94 340	1.05 660	9.99 833	9.02 043	9.02 283	0.97 717	9.99 760	59
2	8.94 317	8.94 485	1.05 515	9.99 832	9.02 163	9.02 404	0.97 596	9.99 759	58
3	8.94 461	8.94 630	1.05 370	9.99 831	9.02 283	9.02 525	0.97 475	9.99 757	57
4	8.94 603	8.94 773	1.05 227	9.99 830	9.02 402	9.02 645	0.97 355	9.99 756	56
5	8.94 746	8.94 917	1.05 083	9.99 829	9.02 520	9.02 766	0.97 234	9.99 755	55
6	8.94 887	8.95 060	1.04 940	9.99 828	9.02 639	9.02 885	0.97 115	9.99 754	54
7	8.95 029	8.95 202	1.04 798	9.99 827	9.02 757	9.03 005	0.96 995	9.99 752	53
8	8.95 170	8.95 344	1.04 656	9.99 825	9.02 874	9.03 124	0.96 876	9.99 751	52
9	8.95 310	8.95 486	1.04 514	9.99 824	9.02 992	9.03 242	0.96 758	9.99 749	51
10	8.95 450	8.95 627	1.04 373	9.99 823	9.03 109	9.03 361	0.96 639	9.99 748	**50**
11	8.95 589	8.95 767	1.04 233	9.99 822	9.03 226	9.03 479	0.96 521	9.99 747	49
12	8.95 728	8.95 908	1.04 092	9.99 821	9.03 342	9.03 597	0.96 403	9.99 745	48
13	8.95 867	8.96 047	1.03 953	9.99 820	9.03 458	9.03 714	0.96 286	9.99 744	47
14	8.96 005	8.96 187	1.03 813	9.99 819	9.03 574	9.03 832	0.96 168	9.99 742	46
15	8.96 143	8.96 325	1.03 675	9.99 817	9.03 690	9.03 948	0.96 052	9.99 741	45
16	8.96 280	8.96 464	1.03 536	9.99 816	9.03 805	9.04 065	0.95 935	9.99 740	44
17	8.96 417	8.96 602	1.03 398	9.99 815	9.03 920	9.04 181	0.95 819	9.99 738	43
18	8.96 553	8.96 739	1.03 261	9.99 814	9.04 034	9.04 297	0.95 703	9.99 737	42
19	8.96 689	8.96 877	1.03 123	9.99 813	9.04 149	9.04 413	0.95 587	9.99 736	41
20	8.96 825	8.97 013	1.02 987	9.99 812	9.04 262	9.04 528	0.95 472	9.99 734	**40**
21	8.96 960	8.97 150	1.02 850	9.99 810	9.04 376	9.04 643	0.95 357	9.99 733	39
22	8.97 095	8.97 285	1.02 715	9.99 809	9.04 490	9.04 758	0.95 242	9.99 731	38
23	8.97 229	8.97 421	1.02 579	9.99 808	9.04 603	9.04 873	0.95 127	9.99 730	37
24	8.97 363	8.97 556	1.02 444	9.99 807	9.04 715	9.04 987	0.95 013	9.99 728	36
25	8.97 496	8.97 691	1.02 309	9.99 806	9.04 828	9.05 101	0.94 899	9.99 727	35
26	8.97 629	8.97 825	1.02 175	9.99 804	9.04 940	9.05 214	0.94 786	9.99 726	34
27	8.97 762	8.97 959	1.02 041	9.99 803	9.05 052	9.05 328	0.94 672	9.99 724	33
28	8.97 894	8.98 092	1.01 908	9.99 802	9.05 164	9.05 441	0.94 559	9.99 723	32
29	8.98 026	8.98 225	1.01 775	9.99 801	9.05 275	9.05 553	0.94 447	9.99 721	31
30	8.98 157	8.98 358	1.01 642	9.99 800	9.05 386	9.05 666	0.94 334	9.99 720	**30**
31	8.98 288	8.98 490	1.01 510	9.99 798	9.05 497	9.05 778	0.94 222	9.99 718	29
32	8.98 419	8.98 622	1.01 378	9.99 797	9.05 607	9.05 890	0.94 110	9.99 717	28
33	8.98 549	8.98 753	1.01 247	9.99 796	9.05 717	9.06 002	0.93 998	9.99 716	27
34	8.98 679	8.98 884	1.01 116	9.99 795	9.05 827	9.06 113	0.93 887	9.99 714	26
35	8.98 808	8.99 015	1.00 985	9.99 793	9.05 937	9.06 224	0.93 776	9.99 713	25
36	8.98 937	8.99 145	1.00 855	9.99 792	9.06 046	9.06 335	0.93 665	9.99 711	24
37	8.99 066	8.99 275	1.00 725	9.99 791	9.06 155	9.06 445	0.93 555	9.99 710	23
38	8.99 194	8.99 405	1.00 595	9.99 790	9.06 264	9.06 556	0.93 444	9.99 708	22
39	8.99 322	8.99 534	1.00 466	9.99 788	9.06 372	9.06 666	0.93 334	9.99 707	21
40	8.99 450	8.99 662	1.00 338	9.99 787	9.06 481	9.06 775	0.93 225	9.99 705	**20**
41	8.99 577	8.99 791	1.00 209	9.99 786	9.06 589	9.06 885	0.93 115	9.99 704	19
42	8.99 704	8.99 919	1.00 081	9.99 785	9.06 696	9.06 994	0.93 006	9.99 702	18
43	8.99 830	9.00 046	0.99 954	9.99 783	9.06 804	9.07 103	0.92 897	9.99 701	17
44	8.99 956	9.00 174	0.99 826	9.99 782	9.06 911	9.07 211	0.92 789	9.99 699	16
45	9.00 082	9.00 301	0.99 699	9.99 781	9.07 018	9.07 320	0.92 680	9.99 698	15
46	9.00 207	9.00 427	0.99 573	9.99 780	9.07 124	9.07 428	0.92 572	9.99 696	14
47	9.00 332	9.00 553	0.99 447	9.99 778	9.07 231	9.07 536	0.92 464	9.99 695	13
48	9.00 456	9.00 679	0.99 321	9.99 777	9.07 337	9.07 643	0.92 357	9.99 693	12
49	9.00 581	9.00 805	0.99 195	9.99 776	9.07 442	9.07 751	0.92 249	9.99 692	11
50	9.00 704	9.00 930	0.99 070	9.99 775	9.07 548	9.07 858	0.92 142	9.99 690	**10**
51	9.00 828	9.01 055	0.98 945	9.99 773	9.07 653	9.07 964	0.92 036	9.99 689	9
52	9.00 951	9.01 179	0.98 821	9.99 772	9.07 758	9.08 071	0.91 929	9.99 687	8
53	9.01 074	9.01 303	0.98 697	9.99 771	9.07 863	9.08 177	0.91 823	9.99 686	7
54	9.01 196	9.01 427	0.98 573	9.99 769	9.07 968	9.08 283	0.91 717	9.99 684	6
55	9.01 318	9.01 550	0.98 450	9.99 768	9.08 072	9.08 389	0.91 611	9.99 683	5
56	9.01 440	9.01 673	0.98 327	9.99 767	9.08 176	9.08 495	0.91 505	9.99 681	4
57	9.01 561	9.01 796	0.98 204	9.99 765	9.08 280	9.08 600	0.91 400	9.99 680	3
58	9.01 682	9.01 918	0.98 082	9.99 764	9.08 383	9.08 705	0.91 295	9.99 678	2
59	9.01 803	9.02 040	0.97 960	9.99 763	9.08 486	9.08 810	0.91 190	9.99 677	1
60	9.01 923	9.02 162	0.97 838	9.99 761	9.08 589	9.08 914	0.91 086	9.99 675	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

	84°		83°

	7°				8°				
′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
0	9.08 589	9.08 914	0.91 086	9.99 675	9.14 356	9.14 780	0.85 220	9.99 575	**60**
1	9.08 692	9.09 019	0.90 981	9.99 674	9.14 445	9.14 872	0.85 128	9.99 574	59
2	9.08 795	9.09 123	0.90 877	9.99 672	9.14 535	9.14 963	0.85 037	9.99 572	58
3	9.08 897	9.09 227	0.90 773	9.99 670	9.14 624	9.15 054	0.84 946	9.99 570	57
4	9.08 999	9.09 330	0.90 670	9.99 669	9.14 714	9.15 145	0.84 855	9.99 568	56
5	9.09 101	9.09 434	0.90 566	9.99 667	9.14 803	9.15 236	0.84 764	9.99 566	55
6	9.09 202	9.09 537	0.90 463	9.99 666	9.14 891	9.15 327	0.84 673	9.99 565	54
·7	9.09 304	9.09 640	0.90 360	9.99 664	9.14 980	9.15 417	0.84 583	9.99 563	53
8	9.09 405	9.09 742	0.90 258	9.99 663	9.15 069	9.15 508	0.84 492	9.99 561	52
9	9.09 506	9.09 845	0.90 155	9.99 661	9.15 157	9.15 598	0.84 402	9.99 559	51
10	9.09 606	9.09 947	0.90 053	9.99 659	9.15 245	9.15 688	0.84 312	9.99 557	**50**
11	9.09 707	9.10 049	0.90 951	9.99 658	9.15 333	9.15 777	0.84 223	9.99 556	49
12	9.09 807	9.10 150	0.89 850	9.99 656	9.15 421	9.15 867	0.84 133	9.99 554	48
13	9.09 907	9.10 252	0.89 748	9.99 655	9.15 508	9.15 956	0.84 044	9.99 552	47
14	9.10 006	9.10 353	0.89 647	9.99 653	9.15 596	9.16 046	0.83 954	9.99 550	46
15	9.10 106	9.10 454	0.89 546	9.99 651	9.15 683	9.16 135	0.83 865	9.99 548	45
16	9.10 205	9.10 555	0.89 445	9.99 650	9.15 770	9.16 224	0.83 776	9.99 546	44
17	9.10 304	9.10 656	0.89 344	9.99 648	9.15 857	9.16 312	0.83 688	9.99 545	43
18	9.10 402	9.10 756	0.89 244	9.99 647	9.15 944	9.16 401	0.83 599	9.99 543	42
19	9.10 501	9.10 856	0.89 144	9.99 645	9.16 030	9.16 489	0.83 511	9.99 541	41
20	9.10 599	9.10 956	0.89 044	9.99 643	9.16 116	9.16 577	0.83 423	9.99 539	**40**
21	9.10 697	9.11 056	0.88 944	9.99 642	9.16 203	9.16 665	0.83 335	9.99 538	39
22	9.10 795	9.11 155	0.88 845	9.99 640	9.16 289	9.16 753	0.83 247	9.99 535	38
23	9.10 893	9.11 254	0.88 746	9.99 638	9.16 374	9.16 841	0.83 159	9.99 533	37
24	9.10 990	9.11 353	0.88 647	9.99 637	9.16 460	9.16 928	0.83 072	9.99 532	36
25	9.11 087	9.11 452	0.88 548	9.99 635	9.16 545	9.17 016	0.82 984	9.99 530	35
26	9.11 184	9.11 551	0.88 449	9.99 633	9.16 631	9.17 103	0.82 897	9.99 528	34
27	9.11 281	9.11 649	0.88 351	9.99 632	9.16 716	9.17 190	0.82 810	9.99 526	33
28	9.11 377	9.11 747	0.88 253	9.99 630	9.16 801	9.17 277	0.82 723	9.99 524	32
29	9.11 474	9.11 845	0.88 155	9.99 629	9.16 886	9.17 363	0.82 637	9.99 522	31
30	9.11 570	9.11 943	0.88 057	9.99 627	9.16 970	9.17 450	0.82 550	9.99 520	**30**
31	9.11 666	9.12 040	0.87 960	9.99 625	9.17 055	9.17 536	0.82 464	9.99 518	29
32	9.11 761	9.12 138	0.87 862	9.99 624	9.17 139	9.17 622	0.82 378	9.99 517	28
33	9.11 857	9.12 235	0.87 765	9.99 622	9.17 223	9.17 708	0.82 292	9.99 515	27
34	9.11 952	9.12 332	0.87 668	9.99 620	9.17 307	9.17 794	0.82 206	9.99 513	26
35	9.12 047	9.12 428	0.87 572	9.99 618	9.17 391	9.17 880	0.82 120	9.99 511	25
36	9.12 142	9.12 525	0.87 475	9.99 617	9.17 474	9.17 965	0.82 035	9.99 509	24
37	9.12 236	9.12 621	0.87 379	9.99 615	9.17 558	9.18 051	0.81 949	9.99 507	23
38	9.12 331	9.12 717	0.87 283	9.99 613	9.17 641	9.18 136	0.81 864	9.99 505	22
39	9.12 425	9.12 813	0.87 187	9.99 612	9.17 724	9.18 221	0.81 779	9.99 503	21
40	9.12 519	9.12 909	0.87 091	9.99 610	9.17 807	9.18 306	0.81 694	9.99 501	**20**
41	9.12 612	9.13 004	0.86 996	9.99 608	9.17 890	9.18 391	0.81 609	9.99 499	19
42	9.12 706	9.13 099	0.86 901	9.99 607	9.17 973	9.18 475	0.81 525	9.99 497	18
43	9.12 799	9.13 194	0.86 806	9.99 605	9.18 055	9.18 560	0.81 440	9.99 495	17
44	9.12 892	9.13 289	0.86 711	9.99 603	9.18 137	9.18 644	0.81 356	9.99 494	16
45	9.12 085	9.13 384	0.86 616	9.99 601	9.18 220	9.18 728	0.81 272	9.99 492	15
46	9.13 078	9.13 478	0.86 522	9.99 600	9.18 302	9.18 812	0.81 188	9.99 490	14
47	9.13 171	9.13 573	0.86 427	9.99 598	9.18 383	9.18 896	0.81 104	9.99 488	13
48	9.13 263	9.13 667	0.86 333	9.99 596	9.18 465	9.18 979	0.81 021	9.99 486	12
49	9.13 355	9.13 761	0.86 239	9.99 595	9.18 547	9.19 063	0.80 937	9.99 484	11
50	9.13 447	9.13 854	0.86 146	9.99 593	9.18 628	9.19 146	0.80 854	9.99 482	**10**
51	9.13 539	9.13 948	0.86 052	9.99 591	9.18 709	9.19 229	0.80 771	9.99 480	9
52	9.13 630	9.14 041	0.85 959	9.99 589	9.18 790	9.19 312	0.80 688	9.99 478	8
53	9.13 722	9.14 134	0.85 866	9.99 588	9.18 871	9.19 395	0.80 605	9.99 476	7
54	9.13 813	9.14 227	0.85 773	9.99 586	9.18 952	9.19 478	0.80 522	9.99 474	6
55	9.13 904	9.14 320	0.85 680	9.99 584	9.19 033	9.19 561	0.80 439	9.99 472	5
56	9.13 994	9.14 412	0.85 588	9.99 582	9.19 113	9.19 643	0.80 357	9.99 470	·4
57	9.14 085	9.14 504	0.85 496	9.99 581	9.19 193	9.19 725	0.80 275	9.99 468	3
58	9.14 175	9.14 597	0.85 403	9.99 579	9.19 273	9.19 807	0.80 193	9.99 466	2
59	9.14 266	9.14 688	0.85 312	9.99 577	9.19 353	9.19 889	0.80 111	9.99 464	1
60	9.14 356	9.14 780	0.85 220	9.99 575	9.19 433	9.19 971	0.80 029	9.99 462	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

82°	81°

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TABLE IV. — LOGARITHMIC SINES, COSINES,

	9°				10°				
′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
0	9.19433	9.19971	0.80029	9.99462	9.23967	9.24632	0.75368	9.99335	60
1	9.19513	9.20053	0.79947	9.99460	9.24039	9.24706	0.75294	9.99333	59
2	9.19592	9.20134	0.79866	9.99458	9.24110	9.24779	0.75221	9.99331	58
3	9.19672	9.20216	0.79784	9.99456	9.24181	9.24853	0.75147	9.99328	57
4	9.19751	9.20297	0.79703	9.99454	9.24253	9.24926	0.75074	9.99326	56
5	9.19830	9.20378	0.79622	9.99452	9.24323	9.25000	0.75000	9.99324	55
6	9.19909	9.20459	0.79541	9.99450	9.24395	9.25073	0.74927	9.99322	54
7	9.19988	9.20540	0.79460	9.99448	9.24466	9.25146	0.74854	9.99319	53
8	9.20067	9.20621	0.79379	9.99446	9.24536	9.25219	0.74781	9.99317	52
9	9.20145	9.20701	0.79299	9.99444	9.24607	9.25292	0.74708	9.99315	51
10	9.20223	9.20782	0.79218	9.99442	9.24677	9.25365	0.74635	9.99313	50
11	9.20302	9.20862	0.79138	9.99440	9.24748	9.25437	0.74563	9.99310	49
12	9.20380	9.20942	0.79058	9.99438	9.24818	9.25510	0.74490	9.99308	48
13	9.20458	9.21022	0.78978	9.99436	9.24888	9.25582	0.74418	9.99306	47
14	9.20535	9.21102	0.78898	9.99434	9.24958	9.25655	0.74345	9.99304	46
15	9.20613	9.21182	0.78818	9.99432	9.25028	9.25727	0.74273	9.99301	45
16	9.20691	9.21261	0.78739	9.99429	9.25098	9.25799	0.74201	9.99299	44
17	9.20768	9.21341	0.78659	9.99427	9.25168	9.25871	0.74129	9.99297	43
18	9.20845	9.21420	0.78580	9.99425	9.25237	9.25943	0.74057	9.99294	42
19	9.20922	9.21499	0.78501	9.99423	9.25307	9.26015	0.73985	9.99292	41
20	9.20999	9.21578	0.78422	9.99421	9.25376	9.26086	0.73914	9.99290	40
21	9.21076	9.21657	0.78343	9.99419	9.25445	9.26158	0.73842	9.99288	39
22	9.21153	9.21736	0.78264	9.99417	9.25514	9.26229	0.73771	9.99285	38
23	9.21229	9.21814	0.78186	9.99415	9.25583	9.26301	0.73699	9.99283	37
24	9.21306	9.21893	0.78107	9.99413	9.25652	9.26372	0.73628	9.99281	36
25	9.21382	9.21971	0.78029	9.99411	9.25721	9.26443	0.73557	9.99278	35
26	9.21458	9.22049	0.77951	9.99409	9.25790	9.26514	0.73486	9.99276	34
27	9.21534	9.22127	0.77873	9.99407	9.25858	9.26585	0.73415	9.99274	33
28	9.21610	9.22205	0.77795	9.99404	9.25927	9.26655	0.73345	9.99271	32
29	9.21685	9.22283	0.77717	9.99402	9.25995	9.26726	0.73274	9.99269	31
30	9.21761	9.22361	0.77639	9.99400	9.26063	9.26797	0.73203	9.99267	30
31	9.21836	9.22438	0.77562	9.99398	9.26131	9.26867	0.73133	9.99264	29
32	9.21912	9.22516	0.77484	9.99396	9.26199	9.26937	0.73063	9.99262	28
33	9.21987	9.22593	0.77407	9.99394	9.26267	9.27008	0.72992	9.99260	27
34	9.22062	9.22670	0.77330	9.99392	9.26335	9.27078	0.72922	9.99257	26
35	9.22137	9.22747	0.77253	9.99390	9.26403	9.27148	0.72852	9.99255	25
36	9.22211	9.22824	0.77176	9.99388	9.26470	9.27218	0.72782	9.99252	24
37	9.22286	9.22901	0.77099	9.99385	9.26538	9.27288	0.72712	9.99250	23
38	9.22361	9.22977	0.77023	9.99383	9.26605	9.27357	0.72643	9.99248	22
39	9.22435	9.23054	0.76946	9.99381	9.26672	9.27427	0.72573	9.99245	21
40	9.22509	9.23130	0.76870	9.99379	9.26739	9.27496	0.72504	9.99243	20
41	9.22583	9.23206	0.76794	9.99377	9.26806	9.27566	0.72434	9.99241	19
42	9.22657	9.23283	0.76717	9.99375	9.26873	9.27635	0.72365	9.99238	18
43	9.22731	9.23359	0.76641	9.99372	9.26940	9.27704	0.72296	9.99236	17
44	9.22805	9.23435	0.76565	9.99370	9.27007	9.27773	0.72227	9.99233	16
45	9.22878	9.23510	0.76490	9.99368	9.27073	9.27842	0.72158	9.99231	15
46	9.22952	9.23586	0.76414	9.99366	9.27140	9.27911	0.72089	9.99229	14
47	9.23025	9.23661	0.76339	9.99364	9.27206	9.27980	0.72020	9.99226	13
48	9.23098	9.23737	0.76263	9.99362	9.27273	9.28049	0.71951	9.99224	12
49	9.23171	9.23812	0.76188	9.99359	9.27339	9.28117	0.71883	9.99221	11
50	9.23244	9.23887	0.76113	9.99357	9.27405	9.28186	0.71814	9.99219	10
51	9.23317	9.23962	0.76038	9.99355	9.27471	9.28254	0.71746	9.99217	9
52	9.23390	9.24037	0.75963	9.99353	9.27537	9.28323	0.71677	9.99214	8
53	9.23462	9.24112	0.75888	9.99351	9.27602	9.28391	0.71609	9.99212	7
54	9.23535	9.24186	0.75814	9.99348	9.27668	9.28459	0.71541	9.99209	6
55	9.23607	9.24261	0.75739	9.99346	9.27734	9.28527	0.71473	9.99207	5
56	9.23679	9.24335	0.75665	9.99344	9.27799	9.28595	0.71405	9.99204	4
57	9.23752	9.24410	0.75590	9.99342	9.27864	9.28662	0.71338	9.99202	3
58	9.23823	9.24484	0.75516	9.99340	9.27930	9.28730	0.71270	9.99200	2
59	9.23895	9.24558	0.75442	9.99337	9.27995	9.28798	0.71202	9.99197	1
60	9.23967	9.24632	0.75368	9.99335	9.28060	9.28865	0.71135	9.99195	0
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

	11°				12°				
′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
0	9.28 060	9.28 865	0.71 135	9.99 195	9.31 788	9.32 747	0.67 253	9.99 040	**60**
1	9.28 125	9.28 933	0.71 067	9.99 192	9.31 847	9.32 810	0.67 190	9.99 038	59
2	9.28 190	9.29 000	0.71 000	9.99 190	9.31 907	9.32 872	0.67 128	9.99 035	58
3	9.28 254	9.29 067	0.70 933	9.99 187	9.31 966	9.32 933	0.67 067	9.99 032	57
4	9.28 319	9.29 134	0.70 866	9.99 185	9.32 025	9.32 995	0.67 005	9.99 030	56
5	9.28 384	9.29 201	0.70 799	9.99 182	9.32 084	9.33 057	0.66 943	9.99 027	55
6	9.28 448	9.29 268	0.70 732	9.99 180	9.32 143	9.33 119	0.66 881	9.99 024	54
7	9.28 512	9.29 335	0.70 665	9.99 177	9.32 202	9.33 180	0.66 820	9.99 022	53
8	9.28 577	9.29 402	0.70 598	9.99 175	9.32 261	9.33 242	0.66 758	9.99 019	52
9	9.28 641	9.29 468	0.70 532	9.99 172	9.32 319	9.33 303	0.66 697	9.99 016	51
10	9.28 705	9.29 535	0.70 465	9.99 170	9.32 378	9.33 365	0.66 635	9.99 013	**50**
11	9.28 769	9.29 601	0.70 399	9.99 167	9.32 437	9.33 426	0.66 574	9.99 011	49
12	9.28 833	9.29 668	0.70 332	9.99 165	9.32 495	9.33 487	0.66 513	9.99 008	48
13	9.28 896	9.29 734	0.70 266	9.99 162	9.32 553	9.33 548	0.66 452	9.99 005	47
14	9.28 960	9.29 800	0.70 200	9.99 160	9.32 612	9.33 609	0.66 391	9.99 002	46
15	9.29 024	9.29 866	0.70 134	9.99 157	9.32 670	9.33 670	0.66 330	9.99 000	45
16	9.29 087	9.29 932	0.70 068	9.99 155	9.32 728	9.33 731	0.66 269	9.98 997	44
17	9.29 150	9.29 998	0.70 002	9.99 152	9.32 786	9.33 792	0.66 208	9.98 994	43
18	9.29 214	9.30 064	0.69 936	9.99 150	9.32 844	9.33 853	0.66 147	9.98 991	42
19	9.29 277	9.30 130	0.69 870	9.99 147	9.32 902	9.33 913	0.66 087	9.98 989	41
20	9.29 340	9.30 195	0.69 805	9.99 145	9.32 960	9.33 974	0.66 026	9.98 986	**40**
21	9.29 403	9.30 261	0.69 739	9.99 142	9.33 018	9.34 034	0.65 966	9.98 983	39
22	9.29 466	9.30 326	0.69 674	9.99 140	9.33 075	9.34 095	0.65 905	9.98 980	38
23	9.29 529	9.30 391	0.69 609	9.99 137	9.33 133	9.34 155	0.65 845	9.98 978	37
24	9.29 591	9.30 457	0.09 543	9.99 135	9.33 190	9.34 215	0.65 785	9.98 975	36
25	9.29 654	9.30 522	0.69 478	9.99 132	9.33 248	9.34 276	0.65 724	9.98 972	35
26	9.29 716	9.30 587	0.69 413	9.99 130	9.33 305	9.34 336	0.65 664	9.98 969	34
27	9.29 779	9.30 652	0.69 348	9.99 127	9.33 362	9.34 396	0.65 604	9.98 967	33
28	9.29 841	9.30 717	0.69 283	9.99 124	9.33 420	9.34 456	0.65 544	9.98 964	32
29	9.29 903	9.30 782	0.69 218	9.99 122	9.33 477	9.34 516	0.65 484	9.98 961	31
30	9.29 966	9.30 846	0.69 154	9.99 119	9.33 534	9.34 576	0.65 424	9.98 958	**30**
31	9.30 028	9.30 911	0.69 089	9.99 117	9.33 591	9.34 635	0.65 365	9.98 955	29
32	9.30 090	9.30 975	0.69 025	9.99 114	9.33 647	9.34 695	0.65 305	9.98 953	28
33	9.30 151	9.31 040	0.68 960	9.99 112	9.33 704	9.34 755	0.65 245	9.98 950	27
34	9.30 213	9.31 104	0.68 896	9.99 109	9.33 761	9.34 814	0.65 186	9.98 947	26
35	9.30 275	9.31 168	0.68 832	9.99 106	9.33 818	9.34 874	0.65 126	9.98 944	25
36	9.30 336	9.31 233	0.68 767	9.99 104	9.33 874	9.34 933	0.65 067	9.98 941	24
37	9.30 398	9.31 297	0.68 703	9.99 101	9.33 931	9.34 992	0.65 008	9.98 938	23
38	9.30 459	9.31 361	0.68 639	9.99 099	9.33 987	9.35 051	0.64 949	9.98 935	22
39	9.30 521	9.31 425	0.68 575	9.99 096	9.34 043	9.35 111	0.64 889	9.98 933	21
40	9.30 582	9.31 489	0.68 511	9.99 093	9.34 100	9.35 170	0.64 830	9.98 930	**20**
41	9.30 643	9.31 552	0.68 448	9.99 091	9.34 156	9.35 229	0.64 771	9.98 927	19
42	9.30 704	9.31 616	0.68 384	9.99 088	9.34 212	9.35 288	0.64 712	9.98 924	18
43	9.30 765	9.31 679	0.68 321	9.99 086	9.34 268	9.35 347	0.64 653	9.98 921	17
44	9.30 826	9.31 743	0.68 257	9.99 083	9.34 324	9.35 405	0.64 595	9.98 919	16
45	9.30 887	9.31 806	0.68 194	9.99 080	9.34 380	9.35 464	0.64 536	9.98 916	15
46	9.30 947	9.31 870	0.68 130	9.99 078	9.34 436	9.35 523	0.64 477	9.98 913	14
47	9.31 008	9.31 933	0.68 067	9.99 075	9.34 491	9.35 581	0.64 419	9.98 910	13
48	9.31 068	9.31 996	0.68 004	9.99 072	9.34 547	9.35 640	0.64 360	9.98 907	12
49	9.31 129	9.32 059	0.67 941	9.99 070	9.34 602	9.35 698	0.64 302	9.98 904	11
50	9.31 189	9.32 122	0.67 878	9.99 067	9.34 658	9.35 757	0.64 243	9.98 901	**10**
51	9.31 250	9.32 185	0.67 815	9.99 064	9.34 713	9.35 815	0.64 185	9.98 898	9
52	9.31 310	9.32 248	0.67 752	9.99 062	9.34 769	9.35 873	0.64 127	9.98 896	8
53	9.31 370	9.32 311	0.67 689	9.99 059	9.34 824	9.35 931	0.64 069	9.98 893	7
54	9.31 430	9.32 373	0.67 627	9.99 056	9.34 879	9.35 989	0.64 011	9.98 890	6
55	9.31 490	9.32 436	0.67 564	9.99 054	9.34 934	9.36 047	0.63 953	9.98 887	5
56	9.31 549	9.32 498	0.67 502	9.99 051	9.34 989	9.36 105	0.63 895	9.98 884	4
57	9.31 609	9.32 561	0.67 439	9.99 048	9.35 044	9.36 163	0.63 837	9.98 881	3
58	9.31 669	9.32 623	0.67 377	9.99 045	9.35 099	9.36 221	0.63 779	9.98 878	2
59	9.31 728	9.32 685	0.67 315	9.99 043	9.35 154	9.36 279	0.63 721	9.98 875	1
60	9.31 788	9.32 747	0.67 253	9.99 040	9.35 209	9.36 336	0.63 664	9.98 872	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

TABLE IV. — LOGARITHMIC SINES, COSINES,

′	13° log sin	log tan	log cot	log cos	14° log sin	log tan	log cot	log cos	
0	9.35 209	9.36 336	0.63 664	9.98 872	9.38 368	9.39 677	0.60 323	9.98 690	60
1	9.35 263	9.36 394	0.63 606	9.98 869	9.38 418	9.39 731	0.60 269	9.98 687	59
2	9.35 318	9.36 452	0.63 548	9.98 867	9.38 469	9.39 785	0.60 215	9.98 684	58
3	9.35 373	9.36 509	0.63 491	9.98 864	9.38 519	9.39 838	0.60 162	9.98 681	57
4	9.35 427	9.36 566	0.63 434	9.98 861	9.38 570	9.39 892	0.60 108	9.98 678	56
5	9.35 481	9.36 624	0.63 376	9.98 858	9.38 620	9.39 945	0.60 055	9.98 675	55
6	9.35 536	9.36 681	0.63 319	9.98 855	9.38 670	9.39 999	0.60 001	9.98 671	54
7	9.35 590	9.36 738	0.63 262	9.98 852	9.38 721	9.40 052	0.59 948	9.98 668	53
8	9.35 644	9.36 795	0.63 205	9.98 849	9.38 771	9.40 106	0.59 894	9.98 665	52
9	9.35 698	9.36 852	0.63 148	9.98 846	9.38 821	9.40 159	0.59 841	9.98 662	51
10	9.35 752	9.36 909	0.63 091	9.98 843	9.38 871	9.40 212	0.59 788	9.98 659	50
11	9.35 806	9.36 966	0.63 034	9.98 840	9.38 921	9.40 266	0.59 734	9.98 656	49
12	9.35 860	9.37 023	0.62 977	9.98 837	9.38 971	9.40 319	0.59 681	9.98 652	48
13	9.35 914	9.37 080	0.62 920	9.98 834	9.39 021	9.40 372	0.59 628	9.98 649	47
14	9.35 968	9.37 137	0.62 863	9.98 831	9.39 071	9.40 425	0.59 575	9.98 646	46
15	9.36 022	9.37 193	0.62 807	9.98 828	9.39 121	9.40 478	0.59 522	9.98 643	45
16	9.36 075	9.37 250	0.62 750	9.98 825	9.39 170	9.40 531	0.59 469	9.98 640	44
17	9.36 129	9.37 306	0.62 694	9.98 822	9.39 220	9.40 584	0.59 416	9.98 636	43
18	9.36 182	9.37 363	0.62 637	9.98 819	9.39 270	9.40 636	0.59 364	9.98 633	42
19	9.36 236	9.37 419	0.62 581	9.98 816	9.39 319	9.40 689	0.59 311	9.98 630	41
20	9.36 289	9.37 476	0.62 524	9.98 813	9.39 369	9.40 742	0.59 258	9.98 627	40
21	9.36 342	9.37 532	0.62 468	9.98 810	9.39 418	9.40 795	0.59 205	9.98 623	39
22	9.36 395	9.37 588	0.62 412	9.98 807	9.39 467	9.40 847	0.59 153	9.98 620	38
23	9.36 449	9.37 644	0.62 356	9.98 804	9.39 517	9.40 900	0.59 100	9.98 617	37
24	9.36 502	9.37 700	0.62 300	9.98 801	9.39 566	9.40 952	0.59 048	9.98 614	36
25	9.36 555	9.37 756	0.62 244	9.98 798	9.39 615	9.41 005	0.58 995	9.98 610	35
26	9.36 608	9.37 812	0.62 188	9.98 795	9.39 664	9.41 057	0.58 943	9.98 607	34
27	9.36 660	9.37 868	0.62 132	9.98 792	9.39 713	9.41 109	0.58 891	9.98 604	33
28	9.36 713	9.37 924	0.62 076	9.98 789	9.39 762	9.41 161	0.58 839	9.98 601	32
29	9.36 766	9.37 980	0.62 020	9.98 786	9.39 811	9.41 214	0.58 786	9.98 597	31
30	9.36 819	9.38 035	0.61 965	9.98 783	9.39 860	9.41 266	0.58 734	9.98 594	30
31	9.36 871	9.38 091	0.61 909	9.98 780	9.39 909	9.41 318	0.58 682	9.98 591	29
32	9.36 924	9.38 147	0.61 853	9.98 777	9.39 958	9.41 370	0.58 630	9.98 588	28
33	9.36 976	9.38 202	0.61 798	9.98 774	9.40 006	9.41 422	0.58 578	9.98 584	27
34	9.37 028	9.38 257	0.61 743	9.98 771	9.40 055	9.41 474	0.58 526	9.98 581	26
35	9.37 081	9.38 313	0.61 687	9.98 768	9.40 103	9.41 526	0.58 474	9.98 578	25
36	9.37 133	9.38 368	0.61 632	9.98 765	9.40 152	9.41 578	0.58 422	9.98 574	24
37	9.37 185	9.38 423	0.61 577	9.98 762	9.40 200	9.41 629	0.58 371	9.98 571	23
38	9.37 237	9.38 479	0.61 521	9.98 759	9.40 249	9.41 681	0.58 319	9.98 568	22
39	9.37 289	9.38 534	0.61 466	9.98 756	9.40 297	9.41 733	0.58 267	9.98 565	21
40	9.37 341	9.38 589	0.61 411	9.98 753	9.40 346	9.41 784	0.58 216	9.98 561	20
41	9.37 393	9.38 644	0.61 356	9.98 750	9.40 394	9.41 836	0.58 164	9.98 558	19
42	9.37 445	9.38 699	0.61 301	9.98 747	9.40 442	9.41 887	0.58 113	9.98 555	18
43	9.37 497	9.38 754	0.61 246	9.98 743	9.40 490	9.41 939	0.58 061	9.98 551	17
44	9.37 549	9.38 808	0.61 192	9.98 740	9.40 538	9.41 990	0.58 010	9.98 548	16
45	9.37 600	9.38 863	0.61 137	9.98 737	9.40 586	9.42 041	0.57 959	9.98 545	15
46	9.37 652	9.38 918	0.61 082	9.98 734	9.40 634	9.42 093	0.57 907	9.98 541	14
47	9.37 703	9.38 972	0.61 028	9.98 731	9.40 682	9.42 144	0.57 856	9.98 538	13
48	9.37 755	9.39 027	0.60 973	9.98 728	9.40 730	9.42 195	0.57 805	9.98 535	12
49	9.37 806	9.39 082	0.60 918	9.98 725	9.40 778	9.42 246	0.57 754	9.98 531	11
50	9.37 858	9.39 136	0.60 864	9.98 722	9.40 825	9.42 297	0.57 703	9.98 528	10
51	9.37 909	9.39 190	0.60 810	9.98 719	9.40 873	9.42 348	0.57 652	9.98 525	9
52	9.37 960	9.39 245	0.60 755	9.98 715	9.40 921	9.42 399	0.57 601	9.98 521	8
53	9.38 011	9.39 299	0.60 701	9.98 712	9.40 968	9.42 450	0.57 550	9.98 518	7
54	9.38 062	9.39 353	0.60 647	9.98 709	9.41 016	9.42 501	0.57 499	9.98 515	6
55	9.38 113	9.39 407	0.60 593	9.98 706	9.41 063	9.42 552	0.57 448	9.98 511	5
56	9.38 164	9.39 461	0.60 539	9.98 703	9.41 111	9.42 603	0.57 397	9.98 508	4
57	9.38 215	9.39 515	0.60 485	9.98 700	9.41 158	9.42 653	0.57 347	9.98 505	3
58	9.38 266	9.39 569	0.60 431	9.98 697	9.41 205	9.42 704	0.57 296	9.98 501	2
59	9.38 317	9.39 623	0.60 377	9.98 694	9.41 252	9.42 755	0.57 245	9.98 498	1
60	9.38 368	9.39 677	0.60 323	9.98 690	9.41 300	9.42 805	0.57 195	9.98 494	0
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

76°　　　　75°

′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
0	9.41 300	9.42 805	0.57 195	9.98 494	9.44 034	9.45 750	0.54 250	9.98 284	**60**
1	9.41 347	9.42 856	0.57 144	9.98 491	9.44 078	9.45 797	0.54 203	9.98 281	59
2	9.41 394	9.42 906	0.57 094	9.98 483	9.44 122	9.45 845	0.54 155	9.98 277	58
3	9.41 441	9.42 957	0.57 043	9.98 484	9.44 166	9.45 892	0.54 108	9.98 273	57
4	9.41 488	9.43 007	0.56 993	9.98 481	9.44 210	9.45 940	0.54 060	9.98 270	56
5	9.41 535	9.43 057	0.56 943	9.98 477	9.44 253	9.45 987	0.54 013	9.98 266	55
6	9.41 582	9.43 108	0.56 892	9.93 474	9.44 297	9.46 035	0.53 965	9.98 262	54
7	9.41 628	9.43 158	0.56 842	9.98 471	9.44 341	9.46 082	0.53 918	9.98 259	53
8	9.41 675	9.43 208	0.56 792	9.98 467	9.44 385	9.46 130	0.53 870	9.98 255	52
9	9.41 722	9.43 258	0.56 742	9.98 464	9.44 428	9.46 177	0.53 823	9.98 251	51
10	9.41 768	9.43 308	0.56 692	9.98 460	9.44 472	9.46 224	0.53 776	9.98 248	**50**
11	9.41 815	9.43 358	0.56 642	9.98 457	9.44 516	9.46 271	0.53 729	9.98 244	49
12	9.41 861	9.43 408	0.56 592	9.98 453	9.44 559	9.46 319	0.53 681	9.98 240	48
13	9.41 908	9.43 458	0.56 542	9.98 450	9.44 602	9.46 366	0.53 634	9.98 237	47
14	9.41 954	9.43 508	0.56 492	9.98 447	9.44 646	9.46 413	0.53 587	9.98 233	46
15	9.42 001	9.43 558	0.56 442	9.98 443	9.44 689	9.46 460	0.53 540	9.98 229	45
16	9.42 047	9.43 607	0.56 393	9.98 440	9.44 733	9.46 507	0.53 493	9.98 226	44
17	9.42 093	9.43 657	0.56 343	9.98 436	9.44 776	9.46 554	0.53 446	9.98 222	43
18	9.42 140	9.43 707	0.56 293	9.98 433	9.44 819	9.46 601	0.53 399	9.98 218	42
19	9.42 186	9.43 756	0.56 244	9.98 429	9.44 862	9.46 648	0.53 352	9.98 215	41
20	9.42 232	9.43 806	0.56 194	9.98 426	9.44 905	9.46 694	0.53 306	9.98 211	**40**
21	9.42 278	9.43 855	0.56 145	9.98 422	9.44 948	9.46 741	0.53 259	9.98 207	39
22	9.42 324	9.43 905	0.56 095	9.98 419	9.44 992	9.46 788	0.53 212	9.98 204	38
23	9.42 370	9.43 954	0.56 046	9.98 415	9.45 035	9.46 835	0.53 165	9.98 200	37
24	9.42 416	9.44 004	0.55 996	9.98 412	9.45 077	9.46 881	0.53 119	9.98 196	36
25	9.42 461	9.44 053	0.55 947	9.98 409	9.45 120	9.46 928	0.53 072	9.98 192	35
26	9.42 507	9.44 102	0.55 898	9.98 405	9.45 163	9.46 975	0.53 025	9.98 189	34
27	9.42 553	9.44 151	0.55 849	9.98 402	9.45 206	9.47 021	0.52 979	9.98 185	33
28	9.42 599	9.44 201	0.55 799	9.98 398	9.45 249	9.47 068	0.52 932	9.98 181	32
29	9.42 644	9.44 250	0.55 750	9.98 395	9.45 292	9.47 114	0.52 886	9.98 177	31
30	9.42 690	9.44 299	0.55 701	9.98 391	9.45 334	9.47 160	0.52 840	9.98 174	**30**
31	9.42 735	9.44 348	0.55 652	9.98 388	9.45 377	9.47 207	0.52 793	9.98 170	29
32	9.42 781	9.44 397	0.55 603	9.98 384	9.45 419	9.47 253	0.52 747	9.98 166	28
33	9.42 826	9.44 446	0.55 554	9.98 381	9.45 462	9.47 299	0.52 701	9.98 162	27
34	9.42 872	9.44 495	0.55 505	9.98 377	9.45 504	9.47 346	0.52 654	9.98 159	26
35	9.42 917	9.44 544	0.55 456	9.98 373	9.45 547	9.47 392	0.52 608	9.98 155	25
36	9.42 962	9.44 592	0.55 408	9.98 370	9.45 589	9.47 438	0.52 562	9.98 151	24
37	9.43 008	9.44 641	0.55 359	9.98 366	9.45 632	9.47 484	0.52 516	9.98 147	23
38	9.43 053	9.44 690	0.55 310	9.98 363	9.45 674	9.47 530	0.52 470	9.98 144	22
39	9.43 098	9.44 738	0.55 262	9.98 359	9.45 716	9.47 576	0.52 424	9.98 140	21
40	9.43 143	9.44 787	0.55 213	9.98 356	9.45 758	9.47 622	0.52 378	9.98 136	**20**
41	9.43 188	9.44 836	0.55 164	9.98 352	9.45 801	9.47 668	0.52 332	9.98 132	19
42	9.43 233	9.44 884	0.55 116	9.98 349	9.45 843	9.47 714	0.52 286	9.98 129	18
43	9.43 278	9.44 933	0.55 067	9.98 345	9.45 885	9.47 760	0.52 240	9.98 125	17
44	9.43 323	9.44 981	0.55 019	9.98 342	9.45 927	9.47 806	0.52 194	9.98 121	16
45	9.43 367	9.45 029	0.54 971	9.98 338	9.45 969	9.47 852	0.52 148	9.98 117	15
46	9.43 412	9.45 078	0.54 922	9.98 334	9.46 011	9.47 897	0.52 103	9.98 113	14
47	9.43 457	9.45 126	0.54 874	9.98 331	9.46 053	9.47 943	0.52 057	9.98 110	13
48	9.43 502	9.45 174	0.54 826	9.98 327	9.46 095	9.47 989	0.52 011	9.98 106	12
49	9.43 546	9.45 222	0.54 778	9.98 324	9.46 136	9.48 035	0.51 965	9.98 102	11
50	9.43 591	9.45 271	0.54 729	9.98 320	9.46 178	9.48 080	0.51 920	9.98 098	**10**
51	9.43 635	9.45 319	0.54 681	9.98 317	9.46 220	9.48 126	0.51 874	9.98 094	9
52	9.43 680	9.45 367	0.54 633	9.98 313	9.46 262	9.48 171	0.51 829	9.98 090	8
53	9.43 724	9.45 415	0.54 585	9.98 309	9.46 303	9.48 217	0.51 783	9.98 087	7
54	9.43 769	9.45 463	0.54 537	9.98 306	9.46 345	9.48 262	0.51 738	9.98 083	6
55	9.43 813	9.45 511	0.54 489	9.98 302	9.46 386	9.48 307	0.51 693	9.98 079	5
56	9.43 857	9.45 559	0.54 441	9.98 299	9.46 428	9.48 353	0.51 647	9.98 075	4
57	9.43 901	9.45 606	0.54 394	9.98 295	9.46 469	9.48 398	0.51 602	9.98 071	3
58	9.43 946	9.45 654	0.54 346	9.98 291	9.46 511	9.48 443	0.51 557	9.98 067	2
59	9.43 990	9.45 702	0.54 298	9.98 288	9.46 552	9.48 489	0.51 511	9.98 063	1
60	9.44 034	9.45 750	0.54 250	9.98 284	9.46 594	9.48 534	0.51 466	9.98 060	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

TABLE IV. — LOGARITHMIC SINES, COSINES,

′	17° log sin	log tan	log cot	log cos	18° log sin	log tan	log cot	log cos	
0	9.46594	9.48534	0.51466	9.98060	9.48998	9.51178	0.48822	9.97821	**60**
1	9.46635	9.48579	0.51421	9.98056	9.49037	9.51221	0.48779	9.97817	59
2	9.46676	9.48624	0.51376	9.98052	9.49076	9.51264	0.48736	9.97812	58
3	9.46717	9.48669	0.51331	9.98048	9.49115	9.51306	0.48694	9.97808	57
4	9.46758	9.48714	0.51286	9.98044	9.49153	9.51349	0.48651	9.97804	56
5	9.46800	9.48759	0.51241	9.98040	9.49192	9.51392	0.48608	9.97800	55
6	9.46841	9.48804	0.51196	9.98036	9.49231	9.51435	0.48565	9.97796	54
7	9.46882	9.48849	0.51151	9.98032	9.49269	9.51478	0.48522	9.97792	53
8	9.46923	9.48894	0.51106	9.98029	9.49308	9.51520	0.48480	9.97788	52
9	9.46964	9.48939	0.51061	9.98025	9.49347	9.51563	0.48437	9.97784	51
10	9.47005	9.48984	0.51016	9.98021	9.49385	9.51606	0.48394	9.97779	**50**
11	9.47045	9.49029	0.50971	9.98017	9.49424	9.51648	0.48352	9.97775	49
12	9.47086	9.49073	0.50927	9.98013	9.49462	9.51691	0.48309	9.97771	48
13	9.47127	9.49118	0.50882	9.98009	9.49500	9.51734	0.48266	9.97767	47
14	9.47168	9.49163	0.50837	9.98005	9.49539	9.51776	0.48224	9.97763	46
15	9.47209	9.49207	0.50793	9.98001	9.49577	9.51819	0.48181	9.97759	45
16	9.47249	9.49252	0.50748	9.97997	9.49615	9.51861	0.48139	9.97754	44
17	9.47290	9.49296	0.50704	9.97993	9.49654	9.51903	0.48097	9.97750	43
18	9.47330	9.49341	0.50659	9.97989	9.49692	9.51946	0.48054	9.97746	42
19	9.47371	9.49385	0.50615	9.97986	9.49730	9.51988	0.48012	9.97742	41
20	9.47411	9.49430	0.50570	9.97982	9.49768	9.52031	0.47969	9.97738	**40**
21	9.47452	9.49474	0.50526	9.97978	9.49806	9.52073	0.47927	9.97734	39
22	9.47492	9.49519	0.50481	9.97974	9.49844	9.52115	0.47885	9.97729	38
23	9.47533	9.49563	0.50437	9.97970	9.49882	9.52157	0.47843	9.97725	37
24	9.47573	9.49607	0.50393	9.97966	9.49920	9.52200	0.47800	9.97721	36
25	9.47613	9.49652	0.50348	9.97962	9.49958	9.52242	0.47758	9.97717	35
26	9.47654	9.49696	0.50304	9.97958	9.49996	9.52284	0.47716	9.97713	34
27	9.47694	9.49740	0.50260	9.97954	9.50034	9.52326	0.47674	9.97708	33
28	9.47734	9.49784	0.50216	9.97950	9.50072	9.52368	0.47632	9.97704	32
29	9.47774	9.49828	0.50172	9.97946	9.50110	9.52410	0.47590	9.97700	31
30	9.47814	9.49872	0.50128	9.97942	9.50148	9.52452	0.47548	9.97696	**30**
31	9.47854	9.49916	0.50084	9.97938	9.50185	9.52494	0.47506	9.97691	29
32	9.47894	9.49960	0.50040	9.97934	9.50223	9.52536	0.47464	9.97687	28
33	9.47934	9.50004	0.49996	9.97930	9.50261	9.52578	0.47422	9.97683	27
34	9.47974	9.50048	0.49952	9.97926	9.50298	9.52620	0.47380	9.97679	26
35	9.48014	9.50092	0.49908	9.97922	9.50336	9.52661	0.47339	9.97674	25
36	9.48054	9.50136	0.49864	9.97918	9.50374	9.52703	0.47297	9.97670	24
37	9.48094	9.50180	0.49820	9.97914	9.50411	9.52745	0.47255	9.97666	23
38	9.48133	9.50223	0.49777	9.97910	9.50449	9.52787	0.47213	9.97662	22
39	9.48173	9.50267	0.49733	9.97906	9.50486	9.52829	0.47171	9.97657	21
40	9.48213	9.50311	0.49689	9.97902	9.50523	9.52870	0.47130	9.97653	**20**
41	9.48252	9.50355	0.49645	9.97898	9.50561	9.52912	0.47088	9.97649	19
42	9.48292	9.50398	0.49602	9.97894	9.50598	9.52953	0.47047	9.97645	18
43	9.48332	9.50442	0.49558	9.97890	9.50635	9.52995	0.47005	9.97640	17
44	9.48371	9.50485	0.49515	9.97886	9.50673	9.53037	0.46963	9.97636	16
45	9.48411	9.50529	0.49471	9.97882	9.50710	9.53078	0.46922	9.97632	15
46	9.48450	9.50572	0.49428	9.97878	9.50747	9.53120	0.46880	9.97628	14
47	9.48490	9.50616	0.49384	9.97874	9.50784	9.53161	0.46839	9.97623	13
48	9.48529	9.50659	0.49341	9.97870	9.50821	9.53202	0.46798	9.97619	12
49	9.48568	9.50703	0.49297	9.97866	9.50858	9.53244	0.46756	9.97615	11
50	9.48607	9.50746	0.49254	9.97861	9.50896	9.53285	0.46715	9.97610	**10**
51	9.48647	9.50789	0.49211	9.97857	9.50933	9.53327	0.46673	9.97606	9
52	9.48686	9.50833	0.49167	9.97853	9.50970	9.53368	0.46632	9.97602	8
53	9.48725	9.50876	0.49124	9.97849	9.51007	9.53409	0.46591	9.97597	7
54	9.48764	9.50919	0.49081	9.97845	9.51043	9.53450	0.46550	9.97593	6
55	9.48803	9.50962	0.49038	9.97841	9.51080	9.53492	0.46508	9.97589	5
56	9.48842	9.51005	0.48995	9.97837	9.51117	9.53533	0.46467	9.97584	4
57	9.48881	9.51048	0.48952	9.97833	9.51154	9.53574	0.46426	9.97580	3
58	9.48920	9.51092	0.48908	9.97829	9.51191	9.53615	0.46385	9.97576	2
59	9.48959	9.51135	0.48865	9.97825	9.51227	9.53656	0.46344	9.97571	1
60	9.48998	9.51178	0.48822	9.97821	9.51264	9.53697	0.46303	9.97567	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

72°   **71°**

′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
	19°				**20°**				
0	9.51 264	9.53 697	0.46 303	9.97 567	9.53 405	9.56 107	0.43 893	9.97 299	**60**
1	9.51 301	9.53 738	0.46 262	9.97 563	9.53 440	9.56 146	0.43 854	9.97 294	59
2	9.51 338	9.53 779	0.46 221	9.97 558	9.53 475	9.56 185	0.43 815	9.97 289	58
3	9.51 374	9.53 820	0.46 180	9.97 554	9.53 509	9.56 224	0.43 776	9.97 285	57
4	9.51 411	9.53 861	0.46 139	9.97 550	9.53 544	9.56 264	0.43 736	9.97 280	56
5	9.51 447	9.53 902	0.46 098	9.97 545	9.53 578	9.56 303	0.43 697	9.97 276	55
6	9.51 484	9.53 943	0.46 057	9.97 541	9.53 613	9.56 342	0.43 658	9.97 271	54
7	9.51 520	9.53 984	0.46 016	9.97 536	9.53 647	9.56 381	0.43 619	9.97 266	53
8	9.51 557	9.51 025	0.45 975	9.97 532	9.53 682	9.56 420	0.43 580	9.97 262	52
9	9.51 593	9.54 065	0.45 935	9.97 528	9.53 716	9.56 459	0.43 541	9.97 257	51
10	9.51 629	9.54 106	0.45 894	9.97 523	9.53 751	9.56 498	0.43 502	9.97 252	**50**
11	9.51 666	9.51 147	0.45 853	9.97 519	9.53 785	9.56 537	0.43 463	9.97 248	49
12	9.51 702	9.54 187	0.45 813	9.97 515	9.53 819	9.56 576	0.43 424	9.97 243	48
13	9.51 738	9.54 228	0.45 772	9.97 510	9.53 854	9.56 615	0.43 385	9.97 238	47
14	9.51 774	9.54 269	0.45 731	9.97 506	9.53 888	9.56 654	0.43 346	9.97 234	46
15	9.51 811	9.54 309	0.45 691	9.97 501	9.53 922	9.56 693	0.43 307	9.97 229	45
16	9.51 847	9.54 350	0.45 650	9.97 497	9.53 957	9.56 732	0.43 268	9.97 224	44
17	9.51 883	9.54 390	0.45 610	9.97 492	9.53 991	9.56 771	0.43 229	9.97 220	43
18	3.51 919	9.54 431	0.45 569	9.97 488	9.54 025	9.56 810	0.43 190	9.97 215	42
19	9.51 955	9.54 471	0.45 529	9.97 484	9.54 059	9.56 849	0.43 151	9.97 210	41
20	9.51 991	9.54 512	0.45 488	9.97 479	9.54 093	9.56 887	0.43 113	9.97 206	**40**
21	9.52 027	9.54 552	0.45 448	9.97 475	9.54 127	9.56 926	0.43 074	9.97 201	39
22	9.52 063	9.54 593	0.45 407	9.97 470	9.54 161	9.56 965	0.43 035	9.97 196	38
23	9.52 099	9.54 633	0.45 367	9.97 460	9.54 195	9.57 004	0.42 996	9.97 192	37
24	9.52 135	9.54 673	0.45 327	9.97 461	9.54 229	9.57 042	0.42 958	9.97 187	36
25	9.52 171	9.54 714	0.45 286	9.97 457	9.54 263	9.57 081	0.42 919	9.97 182	35
26	9.52 207	9.54 754	0.45 246	9.97 453	9.54 297	9.57 120	0.42 880	9.97 178	34
27	9.52 242	9.54 794	0.45 206	9.97 448	9.54 331	9.57 158	0.42 842	9.97 173	33
28	9.52 278	9.54 835	0.45 105	9.97 444	9.54 365	9.57 197	0.42 803	9.97 168	32
29	9.52 314	9.54 875	0.45 125	9.97 439	9.54 399	9.57 235	0.42 765	9.97 163	31
30	9.52 350	9.54 915	0.45 085	9.97 430	9.54 433	9.57 274	0.42 726	9.97 159	**30**
31	9.52 385	9.54 955	0.45 045	9.97 435	9.54 466	9.57 312	0.42 688	9.97 154	29
32	9.52 421	9.54 995	0.45 005	9.97 426	9.54 500	9.57 351	0.42 649	9.97 149	28
33	9.52 456	9.55 035	0.44 965	9.97 421	9.54 534	9.57 389	0.42 611	9.97 145	27
34	9.52 492	9.55 075	0.44 925	9.97 417	9.54 567	9.57 428	0.42 572	9.97 140	26
35	9.52 527	9.55 115	0.44 885	9.97 412	9.54 601	9.57 466	0.42 534	9.97 135	25
36	9.52 563	9.55 155	0.44 845	9.97 408	9.54 635	9.57 504	0.42 496	9.97 130	24
37	9.52 598	9.55 195	0.44 805	9.97 403	9.54 668	9.57 543	0.42 457	9.97 126	23
38	9.52 634	9.55 235	0.44 765	9.97 399	9.54 702	9.57 581	0.42 419	9.97 121	22
39	9.52 669	9.55 275	0.44 725	9.97 394	9.54 735	9.57 619	0.42 381	9.97 116	21
40	9.52 705	9.55 315	0.44 685	9.97 390	9.54 769	9.57 658	0.42 342	9.97 111	**20**
41	9.52 740	9.55 355	0.44 645	9.97 385	9.54 802	9.57 696	0.42 304	9.97 107	19
42	9.52 775	9.55 395	0.44 605	9.97 381	9.54 836	9.57 734	0.42 266	9.97 102	18
43	9.52 811	9.55 434	0.44 566	9.97 376	9.54 869	9.57 772	0.42 228	9.97 097	17
44	9.52 846	9.55 474	0.44 526	9.97 372	9.54 903	9.57 810	0.42 190	9.97 092	16
45	9.52 881	9.55 514	0.44 486	9.97 367	9.54 936	9.57 849	0.42 151	9.97 087	15
46	9.52 916	9.55 554	0.44 446	9.97 363	9.54 969	9.57 887	0.42 113	9.97 083	14
47	9.52 951	9.55 593	0.44 407	9.97 358	9.55 003	9.57 925	0.42 075	9.97 078	13
48	9.52 986	9.55 633	0.44 367	9.97 353	9.55 036	9.57 963	0.42 037	9.97 073	12
49	9.53 021	9.55 673	0.44 327	9.97 349	9.55 069	9.58 001	0.41 999	9.97 068	11
50	9.53 056	9.55 712	0.44 288	9.97 344	9.55 102	9.58 039	0.41 961	9.97 063	**10**
51	9.53 092	9.55 752	0.44 248	9.97 340	9.55 136	9.58 077	0.41 923	9.97 059	9
52	9.53 126	9.55 791	0.44 209	9.97 335	9.55 169	9.58 115	0.41 885	9.97 054	8
53	9.53 161	9.55 831	0.44 169	9.97 331	9.55 202	9.58 153	0.41 847	9.97 049	7
54	9.53 196	9.55 870	0.44 130	9.97 326	9.55 235	9.58 191	0.41 809	9.97 044	6
55	9.53 231	9.55 910	0.44 090	9.97 322	9.55 268	9.58 229	0.41 771	9.97 039	5
56	9.53 266	9.55 949	0.44 051	9.97 317	9.55 301	9.58 267	0.41 733	9.97 035	4
57	9.53 301	9.55 989	0.44 011	9.97 312	9.55 334	9.58 304	0.41 696	9.97 030	3
58	9.53 336	9.56 028	0.43 972	9.97 308	9.55 367	9.58 342	0.41 658	9.97 025	2
59	9.53 370	9.56 067	0.43 933	9.97 303	9.55 400	9.58 380	0.41 620	9.97 020	1
60	9.53 405	9.56 107	0.43 893	9.97 299	9.55 433	9.58 418	0.41 582	9.97 015	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′
	70°				**69°**				

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TABLE IV. — LOGARITHMIC SINES, COSINES,

′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
0	9.55 433	9.58 418	0.41 582	9.97 015	9.57 358	9.60 641	0.39 359	9.96 717	**60**
1	9.55 466	9.58 455	0.41 545	9.97 010	9.57 389	9.60 677	0.39 323	9.96 711	59
2	9.55 499	9.58 493	0.41 507	9.97 005	9.57 420	9.60 714	0.39 286	9.96 706	58
3	9.55 532	9.58 531	0.41 469	9.97 001	9.57 451	9.60 750	0.39 250	9.96 701	57
4	9.55 564	9.58 569	0.41 431	9.96 996	9.57 482	9.60 786	0.39 214	9.96 696	56
5	9.55 597	9.58 606	0.41 394	9.96 991	9.57 514	9.60 823	0.39 177	9.96 691	55
6	9.55 630	9.58 644	0.41 356	9.96 986	9.57 545	9.60 859	0.39 141	9.96 686	54
7	9.55 663	9.58 681	0.41 319	9.96 981	9.57 576	9.60 895	0.39 105	9.96 681	53
8	9.55 695	9.58 719	0.41 281	9.96 976	9.57 607	9.60 931	0.39 069	9.96 676	52
9	9.55 728	9.58 757	0.41 243	9.96 971	9.57 638	9.60 967	0.39 033	9.96 670	51
10	9.55 761	9.58 794	0.41 206	9.96 966	9.57 669	9.61 004	0.38 996	9.96 665	**50**
11	9.55 793	9.58 832	0.41 168	9.96 962	9.57 700	9.61 040	0.38 960	9.96 660	49
12	9.55 826	9.58 869	0.41 131	9.96 957	9.57 731	9.61 076	0.38 924	9.96 655	48
13	9.55 858	9.58 907	0.41 093	9.96 952	9.57 702	9.61 112	0.38 888	9.96 650	47
14	9.55 891	9.58 944	0.41 056	9.96 947	9.57 793	9.61 148	0.38 852	9.96 645	46
15	9.55 923	9.58 981	0.41 019	9.96 942	9.57 824	9.61 184	0.38 816	9.96 640	45
16	9.55 956	9.59 019	0.40 981	9.96 937	9.57 855	9.61 220	0.38 780	9.96 634	44
17	9.55 988	9.59 056	0.40 944	9.96 932	9.57 885	9.61 256	0.38 744	9.96 629	43
18	9.56 021	9.59 094	0.40 906	9.96 927	9.57 916	9.61 292	0.38 708	9.96 624	42
19	9.56 053	9.59 131	0.40 869	9.96 922	9.57 947	9.61 328	0.38 672	9.96 619	41
20	9.56 085	9.59 168	0.40 832	9.96 917	9.57 978	9.61 364	0.38 636	9.96 614	**40**
21	9.56 118	9.59 205	0.40 795	9.96 912	9.58 008	9.61 400	0.38 600	9.96 608	39
22	9.56 150	9.59 243	0.40 757	9.96 907	9.58 039	9.61 436	0.38 564	9.96 603	38
23	9.56 182	9.59 280	0.40 720	9.96 898	9.58 070	9.61 472	0.38 528	9.96 598	37
24	9.56 215	9.59 317	0.40 683	9.96 898	9.58 101	9.61 508	0.38 492	9.96 593	36
25	9.56 247	9.59 354	0.40 646	9.96 893	9.58 131	9.61 544	0.38 456	9.96 588	35
26	9.56 279	9.59 391	0.40 609	9.96 888	9.58 162	9.61 579	0.38 421	9.96 582	34
27	9.56 311	9.59 429	0.40 571	9.96 883	9.58 192	9.61 615	0.38 385	9.96 577	33
28	9.56 343	9.59 466	0.40 534	9.96 878	9.58 223	9.61 651	0.38 349	9.96 572	32
29	9.56 375	9.59 503	0.40 497	9.96 873	9.58 253	9.61 687	0.38 313	9.96 567	31
30	9.56 408	9.59 540	0.40 460	9.96 868	9.58 284	9.61 722	0.38 278	9.96 562	**30**
31	9.56 440	9.59 577	0.40 423	9.96 863	9.58 314	9.61 758	0.38 242	9.96 556	29
32	9.56 472	9.59 614	0.40 386	9.96 858	9.58 345	9.61 794	0.38 206	9.96 551	28
33	9.56 504	9.59 651	0.40 349	9.96 853	9.58 375	9.61 830	0.38 170	9.96 546	27
34	9.56 536	9.59 688	0.40 312	9.96 848	9.58 406	9.61 865	0.38 135	9.96 541	26
35	9.56 568	9.59 725	0.40 275	9.96 843	9.58 436	9.61 901	0.38 099	9.96 535	25
36	9.56 599	9.59 762	0.40 238	9.96 838	9.58 467	9.61 936	0.38 064	9.96 530	24
37	9.56 631	9.59 799	0.40 201	9.96 833	9.58 497	9.61 972	0.38 028	9.96 525	23
38	9.56 663	9.59 835	0.40 165	9.96 828	9.58 527	9.62 008	0.37 992	9.96 520	22
39	9.56 695	9.59 872	0.40 128	9.96 823	9.58 557	9.62 043	0.37 957	9.96 514	21
40	9.56 727	9.59 909	0.40 091	9.96 818	9.58 588	9.62 079	0.37 921	9.96 509	**20**
41	9.56 759	9.59 946	0.40 054	9.96 813	9.58 618	9.62 114	0.37 886	9.96 504	19
42	9.56 790	9.59 983	0.40 017	9.96 808	9.58 648	9.62 150	0.37 850	9.96 498	18
43	9.56 822	9.60 019	0.39 981	9.96 803	9.58 678	9.62 185	0.37 815	9.96 493	17
44	9.56 854	9.60 056	0.39 944	9.96 798	9.58 709	9.62 221	0.37 779	9.96 488	16
45	9.56 886	9.60 093	0.39 907	9.96 793	9.58 739	9.62 256	0.37 744	9.96 483	15
46	9.56 917	9.60 130	0.39 870	9.96 788	9.58 769	9.62 292	0.37 708	9.96 477	14
47	9.56 949	9.60 166	0.39 834	9.96 783	9.58 799	9.62 327	0.37 673	9.96 472	13
48	9.56 980	9.60 203	0.39 797	9.96 778	9.58 829	9.62 362	0.37 638	9.96 467	12
49	9.57 012	9.60 240	0.39 760	9.96 772	9.58 859	9.62 398	0.37 602	9.96 461	11
50	9.57 044	9.60 276	0.39 724	9.96 767	9.58 889	9.62 433	0.37 567	9.96 456	**10**
51	9.57 075	9.60 313	0.39 687	9.96 762	9.58 919	9.62 468	0.37 532	9.96 451	9
52	9.57 107	9.60 349	0.39 651	9.96 757	9.58 949	9.62 504	0.37 496	9.96 445	8
53	9.57 138	9.60 386	0.39 614	9.96 752	9.58 979	9.62 539	0.37 461	9.96 440	7
54	9.57 169	9.60 422	0.39 578	9.96 747	9.59 009	9.62 574	0.37 426	9.96 435	6
55	9.57 201	9.60 459	0.39 541	9.96 742	9.59 039	9.62 609	0.37 391	9.96 429	5
56	9.57 232	9.60 495	0.39 505	9.96 737	9.59 069	9.62 645	0.37 355	9.96 424	4
57	9.57 264	9.60 532	0.39 468	9.96 732	9.59 098	9.62 680	0.37 320	9.96 419	3
58	9.57 295	9.60 568	0.39 432	9.96 727	9.59 128	9.62 715	0.37 285	9.96 413	2
59	9.57 326	9.60 605	0.39 395	9.96 722	9.59 158	9.62 750	0.37 250	9.96 408	1
60	9.57 358	9.60 641	0.39 359	9.96 717	9.59 188	9.62 785	0.37 215	9.96 403	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

		23°				24°			
′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
0	9.59 188	9.62 785	0.37 215	9.96 403	9.60 931	9.64 858	0.35 142	9.96 073	**60**
1	9.59 218	9.62 820	0.37 180	9.96 397	9.60 960	9.64 892	0.35 108	9.96 067	59
2	9.59 247	9.62 855	0.37 145	9.96 392	9.60 988	9.64 926	0.35 074	9.96 062	58
3	9.59 277	9.62 890	0.37 110	9.96 387	9.61 016	9.64 960	0.35 040	9.96 056	57
4	9.59 307	9.62 926	0.37 074	9.96 381	9.61 045	9.64 994	0.35 006	9.96 050	56
5	9.59 336	9.62 961	0.37 039	9.96 376	9.61 073	9.65 028	0.34 972	9.96 045	55
6	9.59 366	9.62 996	0.37 004	9.96 370	9.61 101	9.65 062	0.34 938	9.96 039	54
7	9.59 396	9.63 031	0.36 969	9.96 365	9.61 129	9.65 096	0.34 904	9.96 034	53
8	9.59 425	9.63 066	0.36 934	9.96 360	9.61 158	9.65 130	0.34 870	9.96 028	52
9	9.59 455	9.63 101	0.36 899	9.96 354	9.61 186	9.65 164	0.34 836	9.96 022	51
10	9.59 484	9.63 135	0.36 865	9.96 349	9.61 214	9.65 197	0.34 803	9.96 017	**50**
11	9.59 514	9.63 170	0.36 830	9.96 343	9.61 242	9.65 231	0.34 769	9.96 011	49
12	9.59 543	9.63 205	0.36 795	9.96 338	9.61 270	9.65 265	0.34 735	9.96 005	48
13	9.59 573	9.63 240	0.36 760	9.96 333	9.61 298	9.65 299	0.34 701	9.96 000	47
14	9.59 602	9.63 275	0.36 725	9.96 327	9.61 326	9.65 333	0.34 667	9.95 994	46
15	9.59 632	9.63 310	0.36 690	9.96 322	9.61 354	9.65 366	0.34 634	9.95 988	45
16	9.59 661	9.63 345	0.36 655	9.96 316	9.61 382	9.65 400	0.34 600	9.95 982	44
17	9.59 690	9.63 379	0.36 621	9.96 311	9.61 411	9.65 434	0.34 566	9.95 977	43
18	9.59 720	9.63 414	0.36 586	9.96 305	9.61 438	9.65 467	0.34 533	9.95 971	42
19	9.59 749	9.63 449	0.36 551	9.96 300	9.61 466	9.65 501	0.34 499	9.95 965	41
20	9.59 778	9.63 484	0.36 516	9.96 294	9.61 494	9.65 535	0.34 465	9.95 960	**40**
21	9.59 808	9.63 519	0.36 481	9.96 289	9.61 522	9.65 568	0.34 432	9.95 954	39
22	9.59 837	9.63 553	0.36 447	9.96 284	9.61 550	9.65 602	0.34 398	9.95 948	38
23	9.59 866	9.63 588	0.36 412	9.96 278	9.61 578	9.65 636	0.34 364	9.95 942	37
24	9.59 895	9.63 623	0.36 377	9.96 273	9.61 606	9.65 669	0.34 331	9.95 937	36
25	9.59 924	9.63 657	0.36 343	9.96 267	9.61 634	9.65 703	0.34 297	9.95 931	35
26	9.59 954	9.63 692	0.36 308	9.96 262	9.61 662	9.65 736	0.34 264	9.95 925	34
27	9.59 983	9.63 726	0.36 274	9.96 256	9.61 689	9.65 770	0.34 230	9.95 920	33
28	9.60 012	9.63 761	0.36 239	9.96 251	9.61 717	9.65 803	0.34 197	9.95 914	32
29	9.60 041	9.63 796	0.36 204	9.96 245	9.61 745	9.65 837	0.34 163	9.95 908	31
30	9.60 070	9.63 830	0.36 170	9.96 240	9.61 773	9.65 870	0.34 130	9.95 902	**30**
31	9.60 099	9.63 865	0.36 135	9.96 234	9.61 800	9.65 904	0.34 096	9.95 897	29
32	9.60 128	9.63 899	0.36 101	9.96 229	9.61 828	9.65 937	0.34 063	9.95 891	28
33	9.60 157	9.63 934	0.36 066	9.96 223	9.61 856	9.65 971	0.34 029	9.95 885	27
34	9.60 186	9.63 968	0.36 032	9.96 218	9.61 883	9.66 004	0.33 996	9.95 879	26
35	9.60 215	9.64 003	0.35 997	9.96 212	9.61 911	9.66 038	0.33 962	9.95 873	25
36	9.60 244	9.64 037	0.35 963	9.96 207	9.61 939	9.66 071	0.33 929	9.95 868	24
37	9.60 273	9.64 072	0.35 928	9.96 201	9.61 966	9.66 104	0.33 896	9.95 862	23
38	9.60 302	9.64 106	0.35 894	9.96 196	9.61 994	9.66 138	0.33 862	9.95 856	22
39	9.60 331	9.64 140	0.35 860	9.96 190	9.62 021	9.66 171	0.33 829	9.95 850	21
40	9.60 359	9.64 175	0.35 825	9.96 185	9.62 049	9.66 204	0.33 796	9.95 844	**20**
41	9.60 388	9.64 209	0.35 791	9.96 179	9.62 076	9.66 238	0.33 762	9.95 839	19
42	9.60 417	9.64 243	0.35 757	9.96 174	9.62 104	9.66 271	0.33 729	9.95 833	18
43	9.60 446	9.64 278	0.35 722	9.96 168	9.62 131	9.66 304	0.33 696	9.95 827	17
44	9.60 474	9.64 312	0.35 688	9.96 162	9.62 159	9.66 337	0.33 663	9.95 821	16
45	9.60 503	9.64 346	0.35 654	9.96 157	9.62 186	9.66 371	0.33 629	9.95 815	15
46	9.60 532	9.64 381	0.35 619	9.96 151	9.62 214	9.66 404	0.33 596	9.95 810	14
47	9.60 561	9.64 415	0.35 585	9.96 146	9.62 241	9.66 437	0.33 563	9.95 804	13
48	9.60 589	9.64 449	0.35 551	9.96 140	9.62 268	9.66 470	0.33 530	9.95 798	12
49	9.60 618	9.64 483	0.35 517	9.96 135	9.62 296	9.66 503	0.33 497	9.95 792	11
50	9.60 646	9.64 517	0.35 483	9.96 129	9.62 323	9.66 537	0.33 463	9.95 786	**10**
51	9.60 675	9.64 552	0.35 448	9.96 123	9.62 350	9.66 570	0.33 430	9.95 780	9
52	9.60 704	9.64 586	0.35 414	9.96 118	9.62 377	9.66 603	0.33 397	9.95 775	8
53	9.60 732	9.64 620	0.35 380	9.96 112	9.62 405	9.66 636	0.33 364	9.95 769	7
54	9.60 761	9.64 654	0.35 346	9.96 107	9.62 432	9.66 669	0.33 331	9.95 763	6
55	9.60 789	9.64 688	0.35 312	9.96 101	9.62 459	9.66 702	0.33 298	9.95 757	5
56	9.60 818	9.64 722	0.35 278	9.96 095	9.62 486	9.66 735	0.33 265	9.95 751	4
57	9.60 846	9.64 756	0.35 244	9.96 090	9.62 513	9.66 768	0.33 232	9.95 745	3
58	9.60 875	9.64 790	0.35 210	9.96 084	9.62 541	9.66 801	0.33 199	9.95 739	2
59	9.60 903	9.64 824	0.35 176	9.96 079	9.62 568	9.66 834	0.33 166	9.95 733	1
60	9.60 931	9.64 858	0.35 142	9.96 073	9.62 595	9.66 867	0.33 133	9.95 728	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

	66°		65°

TABLE IV. — LOGARITHMIC SINES, COSINES,

′	25°				26°				
	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
0	9.62 595	9.66 867	0.33 133	9.95 728	9.64 184	9.68 818	0.31 182	9.95 366	**60**
1	9.62 622	9.66 900	0.33 100	9.95 722	9.64 210	9.68 850	0.31 150	9.95 360	59
2	9.62 649	9.66 933	0.33 067	9.95 716	9.64 236	9.68 882	0.31 118	9.95 354	58
3	9.62 676	9.66 966	0.33 034	9.95 710	9.64 262	9.68 914	0.31 086	9.95 348	57
4	9.62 703	9.66 999	0.33 001	9.95 704	9.64 288	9.68 946	0.31 054	9.95 341	56
5	9.62 730	9.67 032	0.32 968	9.95 698	9.64 313	9.68 978	0.31 022	9.95 335	55
6	9.62 757	9.67 065	0.32 935	9.95 692	9.64 339	9.69 010	0.30 990	9.95 329	54
7	9.62 784	9.67 098	0.32 902	9.95 686	9.64 365	9.69 042	0.30 958	9.95 323	53
8	9.62 811	9.67 131	0.32 869	9.95 680	9.64 391	9.69 074	0.30 926	9.95 317	52
9	9.62 838	9.67 163	0.32 837	9.95 674	9.64 417	9.69 106	0.30 894	9.95 310	51
10	9.62 865	9.67 196	0.32 804	9.95 668	9.64 442	9.69 138	0.30 862	9.95 304	**50**
11	9.62 892	9.67 229	0.32 771	9.95 663	9.64 468	9.69 170	0.30 830	9.95 298	49
12	9.62 918	9.67 262	0.32 738	9.95 657	9.64 494	9.69 202	0.30 798	9.95 292	48
13	9.62 945	9.67 295	0.32 705	9.95 651	9.64 519	9.69 234	0.30 766	9.95 286	47
14	9.62 972	9.67 327	0.32 673	9.95 645	9.64 545	9.69 266	0.30 734	9.95 279	46
15	9.62 999	9.67 360	0.32 640	9.95 639	9.64 571	9.69 298	0.30 702	9.95 273	45
16	9.63 026	9.67 393	0.32 607	9.95 633	9.64 596	9.69 329	0.30 671	9.95 267	44
17	9.63 052	9.67 426	0.32 574	9.95 627	9.64 622	9.69 361	0.30 639	9.95 261	43
18	9.63 079	9.67 458	0.32 542	9.95 621	9.64 647	9.69 393	0.30 607	9.95 254	42
19	9.63 106	9.67 491	0.32 509	9.95 615	9.64 673	9.69 425	0.30 575	9.95 248	41
20	9.63 133	9.67 524	0.32 476	9.95 609	9.64 698	9.69 457	0.30 543	9.95 242	**40**
21	9.63 159	9.67 556	0.32 444	9.95 603	9.64 724	9.69 488	0.30 512	9.95 236	39
22	9.63 186	9.67 589	0.32 411	9.95 597	9.64 749	9.69 520	0.30 480	9.95 229	38
23	9.63 213	9.67 622	0.32 378	9.95 591	9.64 775	9.69 552	0.30 448	9.95 223	37
24	9.63 239	9.67 654	0.32 346	9.95 585	9.64 800	9.69 584	0.30 416	9.95 217	36
25	9.63 266	9.67 687	0.32 313	9.95 579	9.64 826	9.69 615	0.30 385	9.95 211	35
26	9.63 292	9.67 719	0.32 281	9.95 573	9.64 851	9.69 647	0.30 353	9.95 204	34
27	9.63 319	9.67 752	0.32 248	9.95 567	9.64 877	9.69 679	0.30 321	9.95 198	33
28	9.63 345	9.67 785	0.32 215	9.95 561	9.64 902	9.69 710	0.30 290	9.95 192	32
29	9.63 372	9.67 817	0.32 183	9.95 555	9.64 927	9.69 742	0.30 258	9.95 185	31
30	9.63 398	9.67 850	0.32 150	9.95 549	9.64 953	9.69 774	0.30 226	9.95 179	**30**
31	9.63 425	9.67 882	0.32 118	9.95 543	9.64 978	9.69 805	0.30 195	9.95 173	29
32	9.63 451	9.67 915	0.32 085	9.95 537	9.65 003	9.69 837	0.30 163	9.95 167	28
33	9.63 478	9.67 947	0.32 053	9.95 531	9.65 029	9.69 868	0.30 132	9.95 160	27
34	9.63 504	9.67 980	0.32 020	9.95 525	9.65 054	9.69 900	0.30 100	9.95 154	26
35	9.63 531	9.68 012	0.31 988	9.95 519	9.65 079	9.69 932	0.30 068	9.95 148	25
36	9.63 557	9.68 044	0.31 956	9.95 513	9.65 104	9.69 963	0.30 037	9.95 141	24
37	9.63 583	9.68 077	0.31 923	9.95 507	9.65 130	9.69 995	0.30 005	9.95 135	23
38	9.63 610	9.68 109	0.31 891	9.95 500	9.65 155	9.70 026	0.29 974	9.95 129	22
39	9.63 636	9.68 142	0.31 858	9.95 494	9.65 180	9.70 058	0.29 942	9.95 122	21
40	9.63 662	9.68 174	0.31 826	9.95 488	9.65 205	9.70 089	0.29 911	9.95 116	**20**
41	9.63 689	9.68 206	0.31 794	9.95 482	9.65 230	9.70 121	0.29 879	9.95 110	19
42	9.63 715	9.68 239	0.31 761	9.95 476	9.65 255	9.70 152	0.29 848	9.95 103	18
43	9.63 741	9.68 271	0.31 729	9.95 470	9.65 281	9.70 184	0.29 816	9.95 097	17
44	9.63 767	9.68 303	0.31 697	9.95 464	9.65 306	9.70 215	0.29 785	9.95 090	16
45	9.63 794	9.68 336	0.31 664	9.95 458	9.65 331	9.70 247	0.29 753	9.95 084	15
46	9.63 820	9.68 368	0.31 632	9.95 452	9.65 356	9.70 278	0.29 722	9.95 078	14
47	9.63 846	9.68 400	0.31 600	9.95 446	9.65 381	9.70 309	0.29 691	9.95 071	13
48	9.63 872	9.68 432	0.31 568	9.95 440	9.65 406	9.70 341	0.29 659	9.95 065	12
49	9.63 898	9.68 465	0.31 535	9.95 434	9.65 431	9.70 372	0.29 628	9.95 059	11
50	9.63 924	9.68 497	0.31 503	9.95 427	9.65 456	9.70 404	0.29 596	9.95 052	**10**
51	9.63 950	9.68 529	0.31 471	9.95 421	9.65 481	9.70 435	0.29 565	9.95 046	9
52	9.63 976	9.68 561	0.31 439	9.95 415	9.65 506	9.70 466	0.29 534	9.95 039	8
53	9.64 002	9.68 593	0.31 407	9.95 409	9.65 531	9.70 498	0.29 502	9.95 033	7
54	9.64 028	9.68 626	0.31 374	9.95 403	9.65 556	9.70 529	0.29 471	9.95 027	6
55	9.64 054	9.68 658	0.31 342	9.95 397	9.65 580	9.70 560	0.29 440	9.95 020	5
56	9.64 080	9.68 690	0.31 310	9.95 391	9.65 605	9.70 592	0.29 408	9.95 014	4
57	9.64 106	9.68 722	0.31 278	9.95 384	9.65 630	9.70 623	0.29 377	9.95 007	3
58	9.64 132	9.68 754	0.31 246	9.95 378	9.65 655	9.70 654	0.29 346	9.95 001	2
59	9.64 158	9.68 786	0.31 214	9.95 372	9.65 680	9.70 685	0.29 315	9.94 995	1
60	9.64 184	9.68 818	0.31 182	9.95 366	9.65 705	9.70 717	0.29 283	9.94 988	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

64°	63°

′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
	27°				**28°**				
0	9.65 705	9.70 717	0.29 283	9.94 988	9.67 161	9.72 567	0.27 433	9.94 593	**60**
1	9.65 729	9.70 748	0.29 252	9.94 982	9.67 185	9.72 598	0.27 402	9.94 587	59
2	9.65 754	9.70 779	0.29 221	9.94 975	9.67 208	9.72 628	0.27 372	9.94 580	58
3	9.65 779	9.70 810	0.29 190	9.94 969	9.67 232	9.72 659	0.27 341	9.94 573	57
4	9.65 804	9.70 841	0.29 159	9.94 962	9.67 256	9.72 689	0.27 311	9.94 567	56
5	9.65 828	9.70 873	0.29 127	9.94 956	9.67 280	9.72 720	0.27 280	9.94 560	55
6	9.65 853	9.70 904	0.29 096	9.94 949	9.67 303	9.72 750	0.27 250	9.94 553	54
7	9.65 878	9.70 935	0.29 065	9.94 943	9.67 327	9.72 780	0.27 220	9.94 546	53
8	9.65 902	9.70 966	0.29 034	9.94 936	9.67 350	9.72 811	0.27 189	9.94 540	52
9	9.65 927	9.70 997	0.29 003	9.94 930	9.67 374	9.72 841	0.27 159	9.94 533	51
10	9.65 952	9.71 028	0.28 972	9.94 923	9.67 398	9.72 872	0.27 128	9.94 526	**50**
11	9.65 976	9.71 059	0.28 941	9.94 917	9.67 421	9.72 902	0.27 098	9.94 519	49
12	9.66 001	9.71 090	0.28 910	9.94 911	9.67 445	9.72 932	0.27 068	9.94 513	48
13	9.66 025	9.71 121	0.28 879	9.94 904	9.67 468	9.72 963	0.27 037	9.94 506	47
14	9.66 050	9.71 153	0.28 847	9.94 898	9.67 492	9.72 993	0.27 007	9.94 499	46
15	9.66 075	9.71 184	0.28 816	9.94 891	9.67 515	9.73 023	0.26 977	9.94 492	45
16	9.66 099	9.71 215	0.28 785	9.94 885	9.67 539	9.73 054	0.26 946	9.94 485	44
17	9.66 124	9.71 246	0.28 754	9.94 878	9.67 562	9.73 084	0.26 916	9.94 479	43
18	9.66 148	9.71 277	0.28 723	9.94 871	9.67 586	9.73 114	0.26 886	9.94 472	42
19	9.66 173	9.71 308	0.28 692	9.94 865	9.67 609	9.73 144	0.26 856	9.94 465	41
20	9.66 197	9.71 339	0.28 661	9.94 858	9.67 633	9.73 175	0.26 825	9.94 458	**40**
21	9.66 221	9.71 370	0.28 630	9.94 852	9.67 656	9.73 205	0.26 795	9.94 451	39
22	9.66 246	9.71 401	0.28 599	9.94 845	9.67 680	9.73 235	0.26 765	9.94 445	38
23	9.66 270	9.71 431	0.28 569	9.94 839	9.67 703	9.73 265	0.26 735	9.94 438	37
24	9.66 295	9.71 462	0.28 538	9.94 832	9.67 726	9.73 295	0.26 705	9.94 431	36
25	9.66 319	9.71 493	0.28 507	9.94 826	9.67 750	9.73 326	0.26 674	9.94 424	35
26	9.66 343	9.71 524	0.28 476	9.94 819	9.67 773	9.73 356	0.26 644	9.94 417	34
27	9.66 368	9.71 555	0.28 445	9.94 813	9.67 796	9.73 386	0.26 614	9.94 410	33
28	9.66 392	9.71 586	0.28 414	9.94 806	9.67 820	9.73 416	0.26 584	9.94 404	32
29	9.66 416	9.71 617	0.28 383	9.94 799	9.67 843	9.73 446	0.26 554	9.94 397	31
30	9.66 441	9.71 648	0.28 352	9.94 793	9.67 866	9.73 476	0.26 524	9.94 390	**30**
31	9.66 465	9.71 679	0.28 321	9.94 786	9.67 890	9.73 507	0.26 493	9.94 383	29
32	9.66 489	9.71 709	0.28 291	9.94 780	9.67 913	9.73 537	0.26 463	9.94 376	28
33	9.66 513	9.71 740	0.28 260	9.94 773	9.67 936	9.73 567	0.26 433	9.94 369	27
34	9.66 537	9.71 771	0.28 229	9.94 767	9.67 959	9.73 597	0.26 403	9.94 362	26
35	9.66 562	9.71 802	0.28 198	9.94 760	9.67 982	9.73 627	0.26 373	9.94 355	25
36	9.66 586	9.71 833	0.28 167	9.94 753	9.68 006	9.73 657	0.26 343	9.94 349	24
37	9.66 610	9.71 863	0.28 137	9.94 747	9.68 029	9.73 687	0.26 313	9.94 342	23
38	9.66 634	9.71 894	0.28 106	9.94 740	9.68 052	9.73 717	0.26 283	9.94 335	22
39	9.66 658	9.71 925	0.28 075	9.94 734	9.68 075	9.73 747	0.26 253	9.94 328	21
40	9.66 682	9.71 955	0.28 045	9.94 727	9.68 098	9.73 777	0.26 223	9.94 321	**20**
41	9.66 706	9.71 986	0.28 014	9.94 720	9.68 121	9.73 807	0.26 193	9.94 314	19
42	9.66 731	9.72 017	0.27 983	9.94 714	9.68 144	9.73 837	0.26 163	9.94 307	18
43	9.66 755	9.72 048	0.27 952	9.94 707	9.68 167	9.73 867	0.26 133	9.94 300	17
44	9.66 779	9.72 078	0.27 922	9.94 700	9.68 190	9.73 897	0.26 103	9.94 293	16
45	9.66 803	9.72 109	0.27 891	9.94 694	9.68 213	9.73 927	0.26 073	9.94 286	15
46	9.66 827	9.72 140	0.27 860	9.94 687	9.68 237	9.73 957	0.26 043	9.94 279	14
47	9.66 851	9.72 170	0.27 830	9.94 680	9.68 260	9.73 987	0.26 013	9.94 273	13
48	9.66 875	9.72 201	0.27 799	9.94 674	9.68 283	9.74 017	0.25 983	9.94 266	12
49	9.66 899	9.72 231	0.27 769	9.94 667	9.68 305	9.74 047	0.25 953	9.94 259	11
50	9.66 922	9.72 262	0.27 738	9.94 660	9.68 328	9.74 077	0.25 923	9.94 252	**10**
51	9.66 946	9.72 293	0.27 707	9.94 654	9.68 351	9.74 107	0.25 893	9.94 245	9
52	9.66 970	9.72 323	0.27 677	9.94 647	9.68 374	9.74 137	0.25 863	9.94 238	8
53	9.66 994	9.72 354	0.27 646	9.94 640	9.68 397	9.74 166	0.25 834	9.94 231	7
54	9.67 018	9.72 384	0.27 616	9.94 634	9.68 420	9.74 196	0.25 804	9.94 224	6
55	9.67 042	9.72 415	0.27 585	9.94 627	9.68 443	9.74 226	0.25 774	9.94 217	5
56	9.67 066	9.72 445	0.27 555	9.94 620	9.68 466	9.74 256	0.25 744	9.94 210	4
57	9.67 090	9.72 476	0.27 524	9.94 614	9.68 489	9.74 286	0.25 714	9.94 203	3
58	9.67 113	9.72 506	0.27 494	9.94 607	9.68 512	9.74 316	0.25 684	9.94 196	2
59	9.67 137	9.72 537	0.27 463	9.94 600	9.68 534	9.74 345	0.25 655	9.94 189	1
60	9.67 161	9.72 567	0.27 433	9.94 593	9.68 557	9.74 375	0.25 625	9.94 182	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′
	62°				**61°**				

TABLE IV. — LOGARITHMIC SINES, COSINES,

′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
			29°				**30°**		
0	9.68 557	9.74 375	0.25 625	9.94 182	9.69 897	9.76 144	0.23 856	9.93 753	**60**
1	9.68 580	9.74 405	0.25 595	9.94 175	9.69 919	9.76 173	0.23 827	9.93 746	59
2	9.68 603	9.74 435	0.25 565	9.94 168	9.69 941	9.76 202	0.23 798	9.93 738	58
3	9.68 625	9.74 465	0.25 535	9.94 161	9.69 963	9.76 231	0.23 769	9.93 731	57
4	9.68 648	9.74 494	0.25 506	9.94 154	9.69 984	9.76 261	0.23 739	9.93 724	56
5	9.68 671	9.74 524	0.25 476	9.94 147	9.70 006	9.76 290	0.23 710	9.93 717	55
6	9.68 694	9.74 554	0.25 446	9.94 140	9.70 028	9.76 319	0.23 681	9.93 709	54
7	9.68 716	9.74 583	0.25 417	9.94 133	9.70 050	9.76 348	0.23 652	9.93 702	53
8	9.68 739	9.74 613	0.25 387	9.94 126	9.70 072	9.76 377	0.23 623	9.93 695	52
9	9.68 762	9.74 643	0.25 357	9.94 119	9.70 093	9.76 406	0.23 594	9.93 687	51
10	9.68 784	9.74 673	0.25 327	9.94 112	9.70 115	9.76 435	0.23 565	9.93 680	**50**
11	9.68 807	9.74 702	0.25 298	9.94 105	9.70 137	9.76 464	0.23 536	9.93 673	49
12	9.68 829	9.74 732	0.25 268	9.94 098	9.70 159	9.76 493	0.23 507	9.93 665	48
•13	9.68 852	9.74 762	0.25 238	9.94 090	9.70 180	9.76 522	0.23 478	9.93 658	47
14	9.68 875	9.74 791	0.25 209	9.94 083	9.70 202	9.76 551	0.23 449	9.93 650	46
15	9.68 897	9.74 821	0.25 179	9.94 076	9.70 224	9.76 580	0.23 420	9.93 643	45
16	9.68 920	9.74 851	0.25 149	9.94 069	9.70 245	9.76 609	0.23 391	9.93 636	44
17	9.68 942	9.74 880	0.25 120	9.94 062	9.70 267	9.76 639	0.23 361	9.93 628	43
18	9.68 965	9.74 910	0.25 090	9.94 055	9.70 288	9.76 668	0.23 332	9.93 621	42
19	9.68 987	9.74 939	0.25 061	9.94 048	9.70 310	9.76 697	0.23 303	9.93 614	41
20	9.69 010	9.74 969	0.25 031	9.94 041	9.70 332	9.76 725	0.23 275	9.93 606	**40**
21	9.69 032	9.74 998	0.25 002	9.94 034	9.70 353	9.76 754	0.23 246	9.93 599	39
22	9.69 055	9.75 028	0.24 972	9.94 027	9.70 375	9.76 783	0.23 217	9.93 591	38
23	9.69 077	9.75 058	0.24 942	9.94 020	9.70 396	9.76 812	0.23 188	9.93 584	37
24	9.69 100	9.75 087	0.24 913	9.94 012	9.70 418	9.76 841	0.23 159	9.93 577	36
25	9.69 122	9.75 117	0.24 883	9.94 005	9.70 439	9.76 870	0.23 130	9.93 569	35
26	9.69 144	9.75 146	0.24 854	9.93 998	9.70 461	9.76 899	0.23 101	9.93 562	34
27	9.69 167	9.75 176	0.24 824	9.93 991	9.70 482	9.76 928	0.23 072	9.93 554	33
28	9.69 189	9.75 205	0.24 795	9.93 984	9.70 504	9.76 957	0.23 043	9.93 547	32
29	9.69 212	9.75 235	0.24 765	9.93 977	9.70 525	9.76 986	0.23 014	9.93 539	31
30	9.69 234	9.75 264	0.24 736	9.93 970	9.70 547	9.77 015	0.22 985	9.93 532	**30**
31	9.69 256	9.75 294	0.24 706	9.93 963	9.70 568	9.77 044	0.22 956	9.93 525	29
32	9.69 279	9.75 323	0.24 677	9.93 955	9.70 590	9.77 073	0.22 927	9.93 517	28
33	9.69 301	9.75 353	0.24 647	9.93 948	9.70 611	9.77 101	0.22 899	9.93 510	27
34	9.69 323	9.75 382	0.24 618	9.93 941	9.70 633	9.77 130	0.22 870	9.93 502	26
35	9.69 345	9.75 411	0.24 589	9.93 934	9.70 654	9.77 159	0.22 841	9.93 495	25
36	9.69 368	9.75 441	0.24 559	9.93 927	9.70 675	9.77 188	0.22 812	9.93 487	24
37	9.69 390	9.75 470	0.24 530	9.93 920	9.70 697	9.77 217	0.22 783	9.93 480	23
38	9.69 412	9.75 500	0.24 500	9.93 912	9.70 718	9.77 246	0.22 754	9.93 472	22
39	9.69 434	9.75 529	0.24 471	9.93 905	9.70 739	9.77 274	0.22 726	9.93 465	21
40	9.69 456	9.75 558	0.24 442	9.93 898	9.70 761	9.77 303	0.22 697	9.93 457	**20**
41	9.69 479	9.75 588	0.24 412	9.93 891	9.70 782	9.77 332	0.22 668	9.93 450	19
42	9.69 501	9.75 617	0.24 383	9.93 884	9.70 803	9.77 361	0.22 639	9.93 442	18
43	9.69 523	9.75 647	0.24 353	9.93 876	9.70 824	9.77 390	0.22 610	9.93 435	17
44	9.69 545	9.75 676	0.24 324	9.93 869	9.70 846	9.77 418	0.22 582	9.93 427	16
45	9.69 567	9.75 705	0.24 295	9.93 862	9.70 867	9.77 447	0.22 553	9.93 419	15
46	9.69 589	9.75 735	0.24 265	9.93 855	9.70 888	9.77 476	0.22 524	9.93 412	14
47	9.69 611	9.75 764	0.24 236	9.93 847	9.70 909	9.77 505	0.22 495	9.93 405	13
48	9.69 633	9.75 793	0.24 207	9.93 840	9.70 931	9.77 533	0.22 467	9.93 397	12
49	9.69 655	9.75 822	0.24 178	9.93 833	9.70 952	9.77 562	0.22 438	9.93 390	11
50	9.69 677	9.75 852	0.24 148	9.93 826	9.70 973	9.77 591	0.22 409	9.93 382	**10**
51	9.69 699	9.75 881	0.24 119	9.93 819	9.70 994	9.77 619	0.22 381	9.93 375	9
52	9.69 721	9.75 910	0.24 090	9.93 811	9.71 015	9.77 648	0.22 352	9.93 367	8
53	9.69 743	9.75 939	0.24 061	9.93 804	9.71 036	9.77 677	0.22 323	9.93 360	7
54	9.69 765	9.75 969	0.24 031	9.93 797	9.71 058	9.77 706	0.22 294	9.93 352	6
55	9.69 787	9.75 998	0.24 002	9.93 789	9.71 079	9.77 734	0.22 266	9.93 344	5
56	9.69 809	9.76 027	0.23 973	9.93 782	9.71 100	9.77 763	0.22 237	9.93 337	4
57	9.69 831	9.76 056	0.23 944	9.93 775	9.71 121	9.77 791	0.22 209	9.93 329	3
58	9.69 853	9.76 086	0.23 914	9.93 768	9.71 142	9.77 820	0.22 180	9.93 322	2
59	9.69 875	9.76 115	0.23 885	9.93 760	9.71 163	9.77 849	0.22 151	9.93 314	1
60	9.69 897	9.76 144	0.23 856	9.93 753	9.71 184	9.77 877	0.22 123	9.93 307	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′
			60°				**59°**		

TANGENTS AND COTANGENTS

′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
	31°				**32°**				
0	9.71 184	9.77 877	0.22 123	9.93 307	9.72 421	9.79 579	0.20 421	9.92 842	60
1	9.71 205	9.77 906	0.22 094	9.93 299	9.72 441	9.79 607	0.20 393	9.92 834	59
2	9.71 226	9.77 935	0.22 065	9.93 291	9.72 461	9.79 635	0.20 365	9.92 826	58
3	9.71 247	9.77 963	0.22 037	9.93 284	9.72 482	9.79 663	0.20 337	9.92 818	57
4	9.71 268	9.77 992	0.22 008	9.93 276	9.72 502	9.79 691	0.20 309	9.92 810	56
5	9.71 289	9.78 020	0.21 980	9.93 269	9.72 522	9.79 719	0.20 281	9.92 803	55
6	9.71 310	9.78 049	0.21 951	9.93 261	9.72 542	9.79 747	0.20 253	9.92 795	54
7	9.71 331	9.78 077	0.21 923	9.93 253	9.72 562	9.79 776	0.20 224	9.92 787	53
8	9.71 352	9.78 106	0.21 894	9.93 246	9.72 582	9.79 804	0.20 196	9.92 779	52
9	9.71 373	9.78 135	0.21 865	9.93 238	9.72 602	9.79 832	0.20 168	9.92 771	51
10	9.71 393	9.78 163	0.21 837	9.93 230	9.72 622	9.79 860	0.20 140	9.92 763	50
11	9.71 414	9.78 192	0.21 808	9.93 223	9.72 643	9.79 888	0.20 112	9.92 755	49
12	9.71 435	9.78 220	0.21 780	9.93 215	9.72 663	9.79 916	0.20 084	9.92 747	48
13	9.71 456	9.78 249	0.21 751	9.93 207	9.72 683	9.79 944	0.20 056	9.92 739	47
14	9.71 477	9.78 277	0.21 723	9.93 200	9.72 703	9.79 972	0.20 028	9.92 731	46
15	9.71 498	9.78 306	0.21 694	9.93 192	9.72 723	9.80 000	0.20 000	9.92 723	45
16	9.71 519	9.78 334	0.21 666	9.93 184	9.72 743	9.80 028	0.19 972	9.92 715	44
17	9.71 539	9.78 363	0.21 637	9.93 177	9.72 763	9.80 056	0.19 944	9.92 707	43
18	9.71 560	9.78 391	0.21 609	9.93 169	9.72 783	9.80 084	0.19 916	9.92 699	42
19	9.71 581	9.78 419	0.21 581	9.93 161	9.72 803	9.80 112	0.19 888	9.92 691	41
20	9.71 602	9.78 448	0.21 552	9.93 154	9.72 823	9.80 140	0.19 860	9.92 683	40
21	9.71 622	9.78 476	0.21 524	9.93 146	9.72 843	9.80 168	0.19 832	9.92 675	39
22	9.71 643	9.78 505	0.21 495	9.93 138	9.72 863	9.80 195	0.19 805	9.92 667	38
23	9.71 664	9.78 533	0.21 467	9.93 131	9.72 883	9.80 223	0.19 777	9.92 659	37
24	9.71 685	9.78 562	0.21 438	9.93 123	9.72 902	9.80 251	0.19 749	9.92 651	36
25	9.71 705	9.78 590	0.21 410	9.93 115	9.72 922	9.80 279	0.19 721	9.92 643	35
26	9.71 726	9.78 618	0.21 382	9.93 108	9.72 942	9.80 307	0.19 693	9.92 635	34
27	9.71 747	9.78 647	0.21 353	9.93 100	9.72 962	9.80 335	0.19 665	9.92 627	33
28	9.71 767	9.78 675	0.21 325	9.93 092	9.72 982	9.80 363	0.19 637	9.92 619	32
29	9.71 788	9.78 704	0.21 296	9.93 084	9.73 002	9.80 391	0.19 609	9.92 611	31
30	9.71 809	9.78 732	0.21 268	9.93 077	9.73 022	9.80 419	0.19 581	9.92 603	30
31	9.71 829	9.78 760	0.21 240	9.93 069	9.73 041	9.80 447	0.19 553	9.92 595	29
32	9.71 850	9.78 789	0.21 211	9.93 061	9.73 061	9.80 474	0.19 526	9.92 587	28
33	9.71 870	9.78 817	0.21 183	9.93 053	9.73 081	9.80 502	0.19 498	9.92 579	27
34	9.71 891	9.78 845	0.21 155	9.93 046	9.73 101	9.80 530	0.19 470	9.92 571	26
35	9.71 911	9.78 874	0.21 126	9.93 038	9.73 121	9.80 558	0.19 442	9.92 563	25
36	9.71 932	9.78 902	0.21 098	9.93 030	9.73 140	9.80 586	0.19 414	9.92 555	24
37	9.71 952	9.78 930	0.21 070	9.93 022	9.73 160	9.80 614	0.19 386	9.92 546	23
38	9.71 973	9.78 959	0.21 041	9.93 014	9.73 180	9.80 642	0.19 358	9.92 538	22
39	9.71 994	9.78 987	0.21 013	9.93 007	9.73 200	9.80 669	0.19 331	9.92 530	21
40	9.72 014	9.79 015	0.20 985	9.92 999	9.73 219	9.80 697	0.19 303	9.92 522	20
41	9.72 034	9.79 043	0.20 957	9.92 991	9.73 239	9.80 725	0.19 275	9.92 514	19
42	9.72 055	9.79 072	0.20 928	9.92 983	9.73 259	9.80 753	0.19 247	9.92 506	18
43	9.72 075	9.79 100	0.20 900	9.92 976	9.73 278	9.80 781	0.19 219	9.92 498	17
44	9.72 096	9.79 128	0.20 872	9.92 968	9.73 298	9.80 808	0.19 192	9.92 490	16
45	9.72 116	9.79 156	0.20 844	9.92 960	9.73 318	9.80 836	0.19 164	9.92 482	15
46	9.72 137	9.79 185	0.20 815	9.92 952	9.73 337	9.80 864	0.19 136	9.92 473	14
47	9.72 157	9.79 213	0.20 787	9.92 944	9.73 357	9.80 892	0.19 108	9.92 465	13
48	9.72 177	9.79 241	0.20 759	9.92 936	9.73 377	9.80 919	0.19 081	9.92 457	12
49	9.72 198	9.79 269	0.20 731	9.92 929	9.73 396	9.80 947	0.19 053	9.92 449	11
50	9.72 218	9.79 297	0.20 703	9.92 921	9.73 416	9.80 975	0.19 025	9.92 441	10
51	9.72 238	9.79 326	0.20 674	9.92 913	9.73 435	9.81 003	0.18 997	9.92 433	9
52	9.72 259	9.79 354	0.20 646	9.92 905	9.73 455	9.81 030	0.18 970	9.92 425	8
53	9.72 279	9.79 382	0.20 618	9.92 897	9.73 474	9.81 058	0.18 942	9.92 416	7
54	9.72 299	9.79 410	0.20 590	9.92 889	9.73 494	9.81 086	0.18 914	9.92 408	6
55	9.72 320	9.79 438	0.20 562	9.92 881	9.73 513	9.81 113	0.18 887	9.92 400	5
56	9.72 340	9.79 466	0.20 534	9.92 874	9.73 533	9.81 141	0.18 859	9.92 392	4
57	9.72 360	9.79 495	0.20 505	9.92 866	9.73 552	9.81 169	0.18 831	9.92 384	3
58	9.72 381	9.79 523	0.20 477	9.92 858	9.73 572	9.81 196	0.18 804	9.92 376	2
59	9.72 401	9.79 551	0.20 449	9.92 850	9.73 591	9.81 224	0.18 776	9.92 367	1
60	9.72 421	9.79 579	0.20 421	9.92 842	9.73 611	9.81 252	0.18 748	9.92 359	0
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′
	58°				**57°**				

TABLE IV. — LOGARITHMIC SINES, COSINES,

′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
	33°				**34°**				
0	9.73 611	9.81 252	0.18 748	9.92 259	9.74 756	9.82 899	0.17 101	9.91 857	**60**
1	9.73 630	9.81 279	0.18 721	9.92 351	9.74 775	9.82 926	0.17 074	9.91 849	59
2	9.73 650	9.81 307	0.18 693	9.92 343	9.74 794	9.82 953	0.17 047	9.91 840	58
3	9.73 669	9.81 335	0.18 665	9.92 335	9.74 812	9.82 980	0.17 020	9.91 832	57
4	9.73 689	9.81 362	0.18 638	9.92 326	9.74 831	9.83 008	0.16 992	9.91 823	56
5	9.73 708	9.81 390	0.18 610	9.92 318	9.74 850	9.83 035	0.16 965	9.91 815	55
6	9.73 727	9.81 418	0.18 582	9.92 310	9.74 868	9.83 062	0.16 938	9.91 806	54
7	9.73 747	9.81 445	0.18 555	9.92 302	9.74 887	9.83 089	0.16 911	9.91 798	53
8	9.73 766	9.81 473	0.18 527	9.92 293	9.74 906	9.83 117	0.16 883	9.91 789	52
9	9.73 785	9.81 500	0.18 500	9.92 285	9.74 924	9.83 144	0.16 856	9.91 781	51
10	9.73 805	9.81 528	0.18 472	9.92 277	9.74 943	9.83 171	0.16 829	9.91 772	**50**
11	9.73 824	9.81 556	0.18 444	9.92 269	9.74 961	9.83 198	0.16 802	9.91 763	49
12	9.73 843	9.81 583	0.18 417	9.92 260	9.74 980	9.83 225	0.16 775	9.91 755	48
13	9.73 863	9.81 611	0.18 389	9.92 252	9.74 999	9.83 252	0.16 748	9.91 746	47
14	9.73 882	9.81 638	0.18 362	9.92 244	9.75 017	9.83 280	0.16 720	9.91 738	46
15	9.73 901	9.81 666	0.18 334	9.92 235	9.75 036	9.83 307	0.16 693	9.91 729	45
16	9.73 921	9.81 693	0.18 307	9.92 227	9.75 054	9.83 334	0.16 666	9.91 720	44
17	9.73 940	9.81 721	0.18 279	9.92 219	9.75 073	9.83 361	0.16 639	9.91 712	43
18	9.73 959	9.81 748	0.18 252	9.92 211	9.75 091	9.83 388	0.16 612	9.91 703	42
19	9.73 978	9.81 776	0.18 224	9.92 202	9.75 110	9.83 415	0.16 585	9.91 695	41
20	9.73 997	9.81 803	0.18 197	9.92 194	9.75 128	9.83 442	0.16 558	9.91 686	**40**
21	9.74 017	9.81 831	0.18 169	9.92 186	9.75 147	9.83 470	0.16 530	9.91 677	39
22	9.74 036	9.81 858	0.18 142	9.92 177	9.75 165	9.83 497	0.16 503	9.91 669	38
23	9.74 055	9.81 886	0.18 114	9.92 169	9.75 184	9.83 524	0.16 476	9.91 660	37
24	9.74 074	9.81 913	0.18 087	9.92 161	9.75 202	9.83 551	0.16 449	9.91 651	36
25	9.74 093	9.81 941	0.18 059	9.92 152	9.75 221	9.83 578	0.16 422	9.91 643	35
26	9.74 113	9.81 968	0.18 032	9.92 144	9.75 239	9.83 605	0.16 395	9.91 634	34
27	9.74 132	9.81 996	0.18 004	9.92 136	9.75 258	9.83 632	0.16 368	9.91 625	33
28	9.74 151	9.82 023	0.17 977	9.92 127	9.75 276	9.83 659	0.16 341	9.91 617	32
29	9.74 170	9.82 051	0.17 949	9.92 119	9.75 294	9.83 686	0.16 314	9.91 608	31
30	9.74 189	9.82 078	0.17 922	9.92 111	9.75 313	9.83 713	0.16 287	9.91 599	**30**
31	9.74 208	9.82 106	0.17 894	9.92 102	9.75 331	9.83 740	0.16 260	9.91 591	29
32	9.74 227	9.82 133	0.17 867	9.92 094	9.75 350	9.83 768	0.16 232	9.91 582	28
33	9.74 246	9.82 161	0.17 839	9.92 086	9.75 368	9.83 795	0.16 205	9.91 573	27
34	9.74 265	9.82 188	0.17 812	9.92 077	9.75 386	9.83 822	0.16 178	9.91 565	26
35	9.74 284	9.82 215	0.17 785	9.92 069	9.75 405	9.83 849	0.16 151	9.91 556	25
36	9.74 303	9.82 243	0.17 757	9.92 060	9.75 423	9.83 876	0.16 124	9.91 547	24
37	9.74 322	9.82 270	0.17 730	9.92 052	9.75 441	9.83 903	0.16 097	9.91 538	23
38	9.74 341	9.82 298	0.17 702	9.92 044	9.75 459	9.83 930	0.16 070	9.91 530	22
39	9.74 360	9.82 325	0.17 675	9.92 035	9.75 478	9.83 957	0.16 043	9.91 521	21
40	9.74 379	9.82 352	0.17 648	9.92 027	9.75 496	9.83 984	0.16 016	9.91 512	**20**
41	9.74 398	9.82 380	0.17 620	9.92 018	9.75 514	9.84 011	0.15 989	9.91 504	19
42	9.74 417	9.82 407	0.17 593	9.92 010	9.75 533	9.84 038	0.15 962	9.91 495	18
43	9.74 436	9.82 435	0.17 565	9.92 002	9.75 551	9.84 065	0.15 935	9.91 486	17
44	9.74 455	9.82 462	0.17 538	9.91 993	9.75 569	9.84 092	0.15 908	9.91 477	16
45	9.74 474	9.82 489	0.17 511	9.91 985	9.75 587	9.84 119	0.15 881	9.91 469	15
46	9.74 493	9.82 517	0.17 483	9.91 976	9.75 605	9.84 146	0.15 854	9.91 460	14
47	9.74 512	9.82 544	0.17 456	9.91 968	9.75 624	9.84 173	0.15 827	9.91 451	13
48	9.74 531	9.82 571	0.17 429	9.91 959	9.75 642	9.84 200	0.15 800	9.91 442	12
49	9.74 549	9.82 599	0.17 401	9.91 951	9.75 660	9.84 227	0.15 773	9.91 433	11
50	9.74 568	9.82 626	0.17 374	9.91 942	9.75 678	9.84 254	0.15 746	9.91 425	**10**
51	9.74 587	9.82 653	0.17 347	9.91 934	9.75 696	9.84 280	0.15 720	9.91 416	9
52	9.74 606	9.82 681	0.17 319	9.91 925	9.75 714	9.84 307	0.15 693	9.91 407	8
53	9.74 625	9.82 708	0.17 292	9.91 917	9.75 733	9.84 334	0.15 666	9.91 398	7
54	9.74 644	9.82 735	0.17 265	9.91 908	9.75 751	9.84 361	0.15 639	9.91 389	6
55	9.74 662	9.82 762	0.17 238	9.91 900	9.75 769	9.84 388	0.15 612	9.91 381	5
56	9.74 681	9.82 790	0.17 210	9.91 891	9.75 787	9.84 415	0.15 585	9.91 372	4
57	9.74 700	9.82 817	0.17 183	9.91 883	9.75 805	9.84 442	0.15 558	9.91 363	3
58	9.74 719	9.82 844	0.17 156	9.91 874	9.75 823	9.84 469	0.15 531	9.91 354	2
59	9.74 737	9.82 871	0.17 129	9.91 866	9.75 841	9.84 496	0.55 504	9.91 345	1
60	9.74 756	9.82 899	0.17 101	9.91 857	9.75 859	9.84 523	0.15 477	9.91 336	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
			85°				**36°**		
0	9.75 859	9.84 523	0.15 477	9.91 336	9.76 922	9.86 126	0.13 874	9.90 796	**60**
1	9.75 877	9.84 550	0.15 450	9.91 328	9.76 939	9.86 153	0.13 847	9.90 787	59
2	9.75 895	9.84 576	0.15 424	9.91 319	9.76 957	9.86 179	0.13 821	9.00 777	58
3	9.75 913	9.84 603	0.15 397	9.91 310	9.76 974	9.86 206	0.13 794	9.90 768	57
4	9.75 931	9.84 630	0.15 370	9.91 301	9.76 991	9.86 232	0.13 768	9.90 759	56
5	9.75 949	9.84 657	0.15 343	9.91 292	9.77 009	9.86 259	0.13 741	9.90 750	55
6	9.75 967	9.84 684	0.15 316	9.91 283	9.77 026	9.86 285	0.13 715	9.90 741	54
7	9.75 985	9.84 711	0.15 289	9.91 274	9.77 043	9.86 312	0.13 688	9.90 731	53
8	9.76 003	9.84 738	0.15 262	9.91 266	9.77 061	9.86 338	0.13 662	9.90 722	52
9	9.76 021	9.84 764	0.15 236	9.91 257	9.77 078	9.86 365	0.13 635	9.90 713	51
10	9.76 039	9.84 791	0.15 209	9.91 248	9.77 095	9.86 392	0.13 608	9.90 704	**50**
11	9.76 057	9.84 818	0.15 182	9.91 239	9.77 112	9.86 418	0.13 582	9.90 694	49
12	9.76 075	9.84 845	0.15 155	9.91 230	9.77 130	9.86 445	0.13 555	9.90 685	48
13	9.76 093	9.84 872	0.15 128	9.91 221	9.77 147	9.86 471	0.13 529	9.90 676	47
14	9.76 111	9.84 899	0.15 101	9.91 212	9.77 164	9.86 498	0.13 502	9.90 667	46
15	9.76 129	9.84 925	0.15 075	9.91 203	9.77 181	9.86 524	0.13 476	9.90 657	45
16	9.76 146	9.84 952	0.15 048	9.91 194	9.77 199	9.86 551	0.13 449	9.90 648	44
17	9.76 164	9.84 979	0.15 021	9.91 185	9.77 216	9.86 577	0.13 423	9.90 639	43
18	9.76 182	9.85 006	0.14 994	9.91 176	9.77 233	9.86 603	0.13 397	9.90 630	42
19	9.76 200	9.85 033	0.14 967	9.91 167	9.77 250	9.86 630	0.13 370	9.90 620	41
20	9.76 218	9.85 059	0.14 941	9.91 158	9.77 268	9.86 656	0.13 344	9.90 611	**40**
21	9.76 236	9.85 086	0.14 914	9.91 149	9.77 285	9.86 683	0.13 317	9.90 602	39
22	9.76 253	9.85 113	0.14 887	9.91 141	9.77 302	9.86 709	0.13 291	9.90 592	38
23	9.76 271	9.85 140	0.14 860	9.91 132	9.77 319	9.86 736	0.13 264	9.90 583	37
24	9.76 289	9.85 166	0.14 834	9.91 123	9.77 336	9.86 762	0.13 238	9.90 574	36
25	9.76 307	9.85 193	0.14 807	9.91 114	9.77 353	9.86 789	0.13 211	9.90 565	35
26	9.76 324	9.85 220	0.14 780	9.91 105	9.77 370	9.86 815	0.13 185	9.90 555	34
27	9.76 342	9.85 247	0.14 753	9.91 096	9.77 387	9.86 842	0.13 158	9.90 546	33
28	9.76 360	9.85 273	0.14 727	9.91 087	9.77 405	9.86 868	0.13 132	9.90 537	32
29	9.76 378	9.85 300	0.14 700	9.91 078	9.77 422	9.86 894	0.13 106	9.90 527	31
30	9.76 395	9.85 327	0.14 673	9.91 069	9.77 439	9.86 921	0.13 079	9.90 518	**30**
31	9.76 413	9.85 354	0.14 646	9.91 060	9.77 456	9.86 947	0.13 053	9.90 509	29
32	9.76 431	9.85 380	0.14 620	9.91 051	9.77 473	9.86 974	0.13 026	9.90 499	28
33	9.76 448	9.85 407	0.14 593	9.91 042	9.77 490	9.87 000	0.13 000	9.90 490	27
34	9.76 466	9.85 434	0.14 566	9.91 033	9.77 507	9.87 027	0.12 973	9.90 480	26
35	9.76 484	9.85 460	0.14 540	9.91 023	9.77 524	9.87 053	0.12 947	9.90 471	25
36	9.76 501	9.85 487	0.14 513	9.91 014	9.77 541	9.87 079	0.12 921	9.90 462	24
37	9.76 519	9.85 514	0.14 486	9.91 005	9.77 558	9.87 106	0.12 894	9.90 452	23
38	9.76 537	9.85 540	0.14 460	9.90 996	9.77 575	9.87 132	0.12 868	9.90 443	22
39	9.76 554	9.85 567	0.14 433	9.90 987	9.77 592	9.87 158	0.12 842	9.90 434	21
40	9.76 572	9.85 594	0.14 406	9.90 978	9.77 609	9.87 185	0.12 815	9.90 424	**20**
41	9.76 590	9.85 620	0.14 380	9.90 969	9.77 626	9.87 211	0.12 789	9.90 415	19
42	9.76 607	9.85 647	0.14 353	9.90 960	9.77 643	9.87 238	0.12 762	9.90 405	18
43	9.76 625	9.85 674	0.14 326	9.90 951	9.77 660	9.87 264	0.12 736	9.90 396	17
44	9.76 642	9.85 700	0.14 300	9.90 942	9.77 677	9.87 290	0.12 710	9.90 386	16
45	9.76 660	9.85 727	0.14 273	9.90 933	9.77 694	9.87 317	0.12 683	9.90 377	15
46	9.76 677	9.85 754	0.14 246	9.90 924	9.77 711	9.87 343	0.12 657	9.90 368	14
47	9.76 695	9.85 780	0.14 220	9.90 915	9.77 728	9.87 369	0.12 631	9.90 358	13
48	9.76 712	9.85 807	0.14 193	9.90 906	9.77 744	9.87 396	0.12 604	9.90 349	12
49	9.76 730	9.85 834	0.14 166	9.90 896	9.77 761	9.87 422	0.12 578	9.90 339	11
50	9.76 747	9.85 860	0.14 140	9.90 887	9.77 778	9.87 448	0.12 552	9.90 330	**10**
51	9.76 765	9.85 887	0.14 113	9.90 878	9.77 795	9.87 475	0.12 525	9.90 320	9
52	9.76 782	9.85 913	0.14 087	9.90 869	9.77 812	9.87 501	0.12 499	9.90 311	8
53	9.76 800	9.85 940	0.14 060	9.90 860	9.77 829	9.87 527	0.12 473	9.90 301	7
54	9.76 817	9.85 967	0.14 033	9.90 851	9.77 846	9.87 554	0.12 446	9.90 292	6
55	9.76 835	9.85 993	0.14 007	9.90 842	9.77 862	9.87 580	0.12 420	9.90 282	5
56	9.76 852	9.86 020	0.13 980	9.90 832	9.77 879	9.87 606	0.12 394	9.90 273	4
57	9.76 870	9.86 046	0.13 954	9.90 823	9.77 896	9.87 633	0.12 367	9.90 263	3
58	9.76 887	9.86 073	0.13 927	9.90 814	9.77 913	9.87 659	0.12 341	9.90 254	2
59	9.76 904	9.86 100	0.13 900	9.90 805	9.77 930	9.87 685	0.12 315	9.90 244	1
60	9.76 922	9.86 126	0.13 874	9.90 796	9.77 946	9.87 711	0.12 289	9.90 235	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′
			54°				**53°**		

TABLE IV. — LOGARITHMIC SINES, COSINES,

		37°					38°			
′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
0	9.77 946	9.87 711	0.12 289	9.90 235	9.78 934	9.89 281	0.10 719	9.89 653	60
1	9.77 963	9.87 738	0.12 262	9.90 225	9.78 950	9.89 307	0.10 693	9.89 643	59
2	9.77 980	9.87 764	0.12 236	9.90 216	9.78 967	9.89 333	0.10 667	9.89 633	58
3	9.77 997	9.87 790	0.12 210	9.90 206	9.78 983	9.89 359	0.10 641	9.89 624	57
4	9.78 013	9.87 817	0.12 183	9.90 197	9.78 999	9.89 385	0.10 615	9.89 614	56
5	9.78 030	9.87 843	0.12 157	9.90 187	9.79 015	9.89 411	0.10 589	9.89 604	55
6	9.78 047	9.87 869	0.12 131	9.90 178	9.79 031	9.89 437	0.10 563	9.89 594	54
7	9.78 063	9.87 895	0.12 105	9.90 168	9.79 047	9.89 463	0.10 537	9.89 584	53
8	9.78 080	9.87 922	0.12 078	9.90 159	9.79 063	9.89 489	0.10 511	9.89 574	52
9	9.78 097	9.87 948	0.12 052	9.90 149	9.79 079	9.89 515	0.10 485	9.89 564	51
10	9.78 113	9.87 974	0.12 026	9.90 139	9.79 095	9.89 541	0.10 459	9.89 554	50
11	9.78 130	9.88 000	0.12 000	9.90 130	9.79 111	9.89 567	0.10 433	9.89 544	49
12	9.78 147	9.88 027	0.11 973	9.90 120	9.79 128	9.89 593	0.10 407	9.89 534	48
13	9.78 163	9.88 053	0.11 947	9.90 111	9.79 144	9.89 619	0.10 381	9.89 524	47
14	9.78 180	9.88 079	0.11 921	9.90 101	9.79 160	9.89 645	0.10 355	9.89 514	46
15	9.78 197	9.88 105	0.11 895	9.90 091	9.79 176	9.89 671	0.10 329	9.89 504	45
16	9.78 213	9.88 131	0.11 869	9.90 082	9.79 192	9.89 697	0.10 303	9.89 495	44
17	9.78 230	9.88 158	0.11 842	9.90 072	9.79 208	9.89 723	0.10 277	9.89 485	43
18	9.78 246	9.88 184	0.11 816	9.90 063	9.79 224	9.89 749	0.10 251	9.89 475	42
19	9.78 263	9.88 210	0.11 790	9.90 053	9.79 240	9.89 775	0.10 225	9.89 465	41
20	9.78 280	9.88 236	0.11 764	9.90 043	9.79 256	9.89 801	0.10 199	9.89 455	40
21	9.78 296	9.88 262	0.11 738	9.90 034	9.79 272	9.89 827	0.10 173	9.89 445	39
22	9.78 313	9.88 289	0.11 711	9.90 024	9.79 288	9.89 853	0.10 147	9.89 435	38
23	9.78 329	9.88 315	0.11 685	9.90 014	9.79 304	9.89 879	0.10 121	9.89 425	37
24	9.78 346	9.88 341	0.11 659	9.90 005	9.79 319	9.89 905	0.10 095	9.89 415	36
25	9.78 362	9.88 367	0.11 633	9.89 995	9.79 335	9.89 931	0.10 069	9.89 405	35
26	9.78 379	9.88 393	0.11 607	9.89 985	9.79 351	9.89 957	0.10 043	9.89 395	34
27	9.78 395	9.88 420	0.11 580	9.89 976	9.79 367	9.89 983	0.10 017	9.89 385	33
28	9.78 412	9.88 446	0.11 554	9.89 966	9.79 383	9.90 009	0.09 991	9.89 375	32
29	9.78 428	9.88 472	0.11 528	9.89 956	9.79 399	9.90 035	0.09 965	9.89 364	31
30	9.78 445	9.88 498	0.11 502	9.89 947	9.79 415	9.90 061	0.09 939	9.89 354	30
31	9.78 461	9.88 524	0.11 476	9.89 937	9.79 431	9.90 086	0.09 914	9.89 344	29
32	9.78 478	9.88 550	0.11 450	9.89 927	9.79 447	9.90 112	0.09 888	9.89 334	28
33	9.78 494	9.88 577	0.11 423	9.89 918	9.79 463	9.90 138	0.09 862	9.89 324	27
34	9.78 510	9.88 603	0.11 397	9.89 908	9.79 478	9.90 164	0.09 836	9.89 314	26
35	9.78 527	9.88 629	0.11 371	9.89 898	9.79 494	9.90 190	0.09 810	9.89 304	25
36	9.78 543	9.88 655	0.11 345	9.89 888	9.79 510	9.90 216	0.09 784	9.89 294	24
37	9.78 560	9.88 681	0.11 319	9.89 879	9.79 526	9.90 242	0.09 758	9.89 284	23
38	9.78 576	9.88 707	0.11 293	9.89 869	9.79 542	9.90 268	0.09 732	9.89 274	22
39	9.78 592	9.88 733	0.11 267	9.89 859	9.79 558	9.90 294	0.09 706	9.89 264	21
40	9.78 609	9.88 759	0.11 241	9.89 849	9.79 573	9.90 320	0.09 680	9.89 254	20
41	9.78 625	9.88 786	0.11 214	9.89 840	9.79 589	9.90 346	0.09 654	9.89 244	19
42	9.78 642	9.88 812	0.11 188	9.89 830	9.79 605	9.90 371	0.09 629	9.89 233	18
43	9.78 658	9.88 838	0.11 162	9.89 820	9.79 621	9.90 397	0.09 603	9.89 223	17
44	9.78 674	9.88 864	0.11 136	9.89 810	9.79 636	9.90 423	0.09 577	9.89 213	16
45	9.78 691	9.88 890	0.11 110	9.89 801	9.79 652	9.90 449	0.09 551	9.89 203	15
46	9.78 707	9.88 916	0.11 084	9.89 791	9.79 668	9.90 475	0.09 525	9.89 193	14
47	9.78 723	9.88 942	0.11 058	9.89 781	9.79 684	9.90 501	0.09 499	9.89 183	13
48	9.78 739	9.88 968	0.11 032	9.89 771	9.79 699	9.90 527	0.09 473	9.89 173	12
49	9.78 756	9.88 994	0.11 006	9.89 761	9.79 715	9.90 553	0.09 447	9.89 162	11
50	9.78 772	9.89 020	0.10 980	9.89 752	9.79 731	9.90 578	0.09 422	9.89 152	10
51	9.78 788	9.89 046	0.10 954	9.89 742	9.79 746	9.90 604	0.09 396	9.89 142	9
52	9.78 805	9.89 073	0.10 927	9.89 732	9.79 762	9.90 630	0.09 370	9.89 132	8
53	9.78 821	9.89 099	0.10 901	9.89 722	9.79 778	9.90 656	0.09 344	9.89 122	7
54	9.78 837	9.89 125	0.10 875	9.89 712	9.79 793	9.90 682	0.09 318	9.89 112	6
55	9.78 853	9.89 151	0.10 849	9.89 702	9.79 809	9.90 708	0.09 292	9.89 101	5
56	9.78 869	9.89 177	0.10 823	9.89 693	9.79 825	9.90 734	0.09 266	9.89 091	4
57	9.78 886	9.89 203	0.10 797	9.89 683	9.79 840	9.90 759	0.09 241	9.89 081	3
58	9.78 902	9.89 229	0.10 771	9.89 673	9.79 856	9.90 785	0.09 215	9.89 071	2
59	9.78 918	9.89 255	0.10 745	9.89 663	9.79 872	9.90 811	0.09 189	9.89 060	1
60	9.78 934	9.89 281	0.10 719	9.89 653	9.79 887	9.90 837	0.09 163	9.89 050	0
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

	52°		51°	

′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
	39°				**40°**				
●	9.79 887	9.90 837	0.09 163	9.89 050	9.80 807	9.92 381	0.07 619	9.88 425	**60**
1	9.79 903	9.90 863	0.09 137	9.89 040	9.80 822	9.92 407	0.07 593	9.88 415	59
2	9.79 918	9.90 889	0.09 111	9.89 030	9.80 837	9.92 433	0.07 567	9.88 404	58
3	9.79 934	9.90 914	0.09 086	9.89 020	9.80 852	9.92 458	0.07 542	9.88 394	57
4	9.79 950	9.90 940	0.09 060	9.89 009	9.80 867	9.92 484	0.07 516	9.88 383	56
5	9.79 965	9.90 966	0.09 034	9.88 999	9.80 882	9.92 510	0.07 490	9.88 372	55
6	9.79 981	9.90 992	0.09 008	9.88 989	9.80 897	9.92 535	0.07 465	9.88 362	54
7	9.79 996	9.91 018	0.08 982	9.88 978	9.80 912	9.92 561	0.07 439	9.88 351	53
8	9.80 012	9.91 043	0.08 957	9.88 968	9.80 927	9.92 587	0.07 413	9.88 340	52
9	9.80 027	9.91 069	0.08 931	9.88 958	9.80 942	9.92 612	0.07 388	9.88 330	51
10	9.80 043	9.91 095	0.08 905	9.88 948	9.80 957	9.92 638	0.07 362	9.88 319	**50**
11	9.80 058	9.91 121	0.08 879	9.88 937	9.80 972	9.92 663	0.07 337	9.88 308	49
12	9.80 074	9.91 147	0.08 853	9.88 927	9.80 987	9.92 689	0.07 311	9.88 298	48
13	9.80 089	9.91 172	0.08 828	9.88 917	9.81 002	9.92 715	0.07 285	9.88 287	47
14	9.80 105	9.91 198	0.08 802	9.88 906	9.81 017	9.92 740	0.07 260	9.88 276	46
15	9.80 120	9.91 224	0.08 776	9.88 896	9.81 032	9.92 766	0.07 234	9.88 266	45
16	9.80 136	9.91 250	0.08 750	9.88 886	9.81 047	9.92 792	0.07 208	9.88 255	44
17	9.80 151	9.91 276	0.08 724	9.88 875	9.81 061	9.92 817	0.07 183	9.88 244	43
18	9.80 166	9.91 301	0.08 699	9.88 865	9.81 076	9.92 843	0.07 157	9.88 234	42
19	9.80 182	9.91 327	0.08 673	9.88 855	9.81 091	9.92 868	0.07 132	9.88 223	41
20	9.80 197	9.91 353	0.08 647	9.88 844	9.81 106	9.92 894	0.07 106	9.88 212	**40**
21	9.80 213	9.91 379	0.08 621	9.88 834	9.81 121	9.92 920	0.07 080	9.88 201	39
22	9.80 228	9.91 404	0.08 596	9.88 824	9.81 136	9.92 945	0.07 055	9.88 191	38
23	9.80 244	9.91 430	0.08 570	9.88 813	9.81 151	9.92 971	0.07 029	9.88 180	37
24	9.80 259	9.91 456	0.08 544	9.88 803	9.81 166	9.92 996	0.07 004	9.88 169	36
25	9.80 274	9.91 482	0.08 518	9.88 793	9.81 180	9.93 022	0.06 978	9.88 158	35
26	9.80 290	9.91 507	0.08 493	9.88 782	9.81 195	9.93 048	0.06 952	9.88 148	34
27	9.80 305	9.91 533	0.08 467	9.88 772	9.81 210	9.93 073	0.06 927	9.88 137	33
28	9.80 320	9.91 559	0.08 441	9.88 761	9.81 225	9.93 099	0.06 901	9.88 126	32
29	9.80 336	9.91 585	0.08 415	9.88 751	9.81 240	9.93 124	0.06 876	9.88 115	31
30	9.80 351	9.91 610	0.08 390	9.88 741	9.81 254	9.93 150	0.06 850	9.88 105	**30**
31	9.80 366	9.91 636	0.08 364	9.88 730	9.81 269	9.93 175	0.06 825	9.88 094	29
32	9.80 382	9.91 662	0.08 338	9.88 720	9.81 284	9.93 201	0.06 799	9.88 083	28
33	9.80 397	9.91 688	0.08 312	9.88 709	9.81 299	9.93 227	0.06 773	9.88 072	27
34	9.80 412	9.91 713	0.08 287	9.88 699	9.81 314	9.93 252	0.06 748	9.88 061	26
35	9.80 428	9.91 739	0.08 261	9.88 688	9.81 328	9.93 278	0.06 722	9.88 051	25
36	9.80 443	9.91 765	0.08 235	9.88 678	9.81 343	9.93 303	0.06 697	9.88 040	24
37	9.80 458	9.91 791	0.08 209	9.88 668	9.81 358	9.93 329	0.06 671	9.88 029	23
38	9.80 473	9.91 816	0.08 184	9.88 657	9.81 372	9.93 354	0.06 646	9.88 018	22
39	9.80 489	9.91 842	0.08 158	9.88 647	9.81 387	9.93 380	0.06 620	9.88 007	21
40	9.80 504	9.91 868	0.08132	9.88 636	9.81 402	9.93 406	0.06 594	9.87 996	**20**
41	9.80 519	9.91 893	0.08 107	9.88 626	9.81 417	9.93 431	0.06 569	9.87 985	19
42	9.80 534	9.91 919	0.08 081	9.88 615	9.81 431	9.93 457	0.06 543	9.87 975	18
43	9.80 550	9.91 945	0.08 055	9.88 605	9.81 446	9.93 482	0.06 518	9.87 964	17
44	9.80 565	9.91 971	0.08 029	9.88 594	9.81 461	9.93 508	0.06 492	9.87 953	16
45	9.80 580	9.91 996	0.08 004	9.88 584	9.81 475	9.93 533	0.06 467	9.87 942	15
46	9.80 595	9.92 022	0.07 978	9.88 573	9.81 490	9.93 559	0.06 441	9.87 931	14
47	9.80 610	9.92 048	0.07 952	9.88 563	9.81 505	9.93 584	0.06 416	9.87 920	13
48	9.80 625	9.92 073	0.07 927	9.88 552	9.81 519	9.93 610	0.06 390	9.87 909	12
49	9.80 641	9.92 099	0.07 901	9.88 542	9.81 534	9.93 636	0.06 364	9.87 898	11
50	9.80 656	9.92 125	0.07 875	9.88 531	9.81 549	9.93 661	0.06 339	9.87 887	**10**
51	9.80 671	9.92 150	0.07 850	9.88 521	9.81 563	9.93 687	0.06 313	9.87 877	9
52	9.80 686	9.92 176	0.07 824	9.88 510	9.81 578	9.93 712	0.06 288	9.87 866	8
53	9.80 701	9.92 202	0.07 798	9.88 499	9.81 592	9.93 738	0.06 262	9.87 855	7
54	9.80 716	9.92 227	0.07 773	9.88 489	9.81 607	9.93 763	0.06 237	9.87 844	6
55	9.80 731	9.92 253	0.07 747	9.88 478	9.81 622	9.93 789	0.06 211	9.87 833	5
56	9.80 746	9.92 279	0.07 721	9.88 468	9.81 636	9.93 814	0.06 186	9.87 822	4
57	9.80 762	9.92 304	0.07 696	9.88 457	9.81 651	9.93 840	0.06 160	9.87 811	3
58	9.80 777	9.92 330	0.07 670	9.88 447	9.81 665	9.93 865	0.06 135	9.87 800	2
59	9.80 792	9.92 356	0.07 644	9.88 436	9.81 680	9.93 891	0.06 109	9.87 789	1
60	9.80 807	9.92 381	0.07 619	9.88 425	9.81 694	9.93 916	0.06 084	9.87 778	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

50°	**49°**

TABLE IV. — LOGARITHMIC SINES, COSINES,

′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	′
	41°				**42°**				
0	9.81 694	9.93 916	0.06 084	9.87 778	9.82 551	9.95 444	0.04 556	9.87 107	**60**
1	9.81 709	9.93 942	0.06 058	9.87 767	9.82 565	9.95 469	0.04 531	9.87 096	59
2	9.81 723	9.93 967	0.06 033	9.87 756	9.82 579	9.95 495	0.04 505	9.87 085	58
3	9.81 738	9.93 993	0.06 007	9.87 745	9.82 593	9.95 520	0.04 480	9.87 073	57
4	9.81 752	9.94 018	0.05 982	9.87 734	9.82 607	9.95 545	0.04 455	9.87 062	56
5	9.81 767	9.94 044	0.05 956	9.87 723	9.82 621	9.95 571	0.04 429	9.87 050	55
6	9.81 781	9.94 069	0.05 931	9.87 712	9.82 635	9.95 596	0.04 404	9.87 039	54
7	9.81 796	9.94 095	0.05 905	9.87 701	9.82 649	9.95 622	0.04 378	9.87 028	53
8	9.81 810	9.94 120	0.05 880	9.87 690	9.82 663	9.95 647	0.04 353	9.87 016	52
9	9.81 825	9.94 146	0.05 854	9.87 679	9.82 677	9.95 672	0.04 328	9.87 005	51
10	9.81 839	9.94 171	0.05 829	9.87 668	9.82 691	9.95 698	0.04 302	9.86 993	**50**
11	9.81 854	9.94 197	0.05 803	9.87 657	9.82 705	9.95 723	0.04 277	9.86 982	49
12	9.81 868	9.94 222	0.05 778	9.87 646	9.82 719	9.95 748	0.04 252	9.86 970	48
13	9.81 882	9.94 248	0.05 752	9.87 635	9.82 733	9.95 774	0.04 226	9.86 959	47
14	9.81 897	9.94 273	0.05 727	9.87 624	9.82 747	9.95 799	0.04 201	9.86 947	46
15	9.81 911	9.94 299	0.05 701	9.87 613	9.82 761	9.95 825	0.04 175	9.86 936	45
16	9.81 926	9.94 324	0.05 676	9.87 601	9.82 775	9.95 850	0.04 150	9.86 924	44
17	9.81 940	9.94 350	0.05 650	9.87 590	9.82 788	9.95 875	0.04 125	9.86 913	43
18	9.81 955	9.94 375	0.05 625	9.87 579	9.82 802	9.95 901	0.04 099	9.86 902	42
19	9.81 969	9.94 401	0.05 599	9.87 568	9.82 816	9.95 926	0.04 074	9.86 890	41
20	9.81 983	9.94 426	0.05 574	9.87 557	9.82 830	9.95 952	0.04 048	9.86 879	**40**
21	9.81 998	9.94 452	0.05 548	9.87 546	9.82 844	9.95 977	0.04 023	9.86 867	39
22	9.82 012	9.94 477	0.05 523	9.87 535	9.82 858	9.96 002	0.03 998	9.86 855	38
23	9.82 026	9.94 503	0.05 497	9.87 524	9.82 872	9.96 028	0.03 972	9.86 844	37
24	9.82 041	9.94 528	0.05 472	9.87 513	9.82 885	9.96 053	0.03 947	9.86 832	36
25	9.82 055	9.94 554	0.05 446	9.87 501	9.82 899	9.96 078	0.03 922	9.86 821	35
26	9.82 069	9.94 579	0.05 421	9.87 490	9.82 913	9.96 104	0.03 896	9.86 809	34
27	9.82 084	9.94 604	0.05 396	9.87 479	9.82 927	9.96 129	0.03 871	9.86 798	33
28	9.82 098	9.94 630	0.05 370	9.87 468	9.82 941	9.96 155	0.03 845	9.86 786	32
29	9.82 112	9.94 655	0.05 345	9.87 457	9.82 955	9.96 180	0.03 820	9.86 775	31
30	9.82 126	9.94 681	0.05 319	9.87 446	9.82 968	9.96 205	0.03 795	9.86 763	**30**
31	9.82 141	9.94 706	0.05 294	9.87 434	9.82 982	9.96 231	0.03 769	9.86 752	29
32	9.82 155	9.94 732	0.05 268	9.87 423	9.82 996	9.96 256	0.03 744	9.86 740	28
33	9.82 169	9.94 757	0.05 243	9.87 412	9.83 010	9.96 281	0.03 719	9.86 727	27
34	9.82 184	9.94 783	0.05 217	9.87 401	9.83 023	9.96 307	0.03 693	9.86 717	26
35	9.82 198	9.94 808	0.05 192	9.87 390	9.83 037	9.96 332	0.03 668	9.86 705	25
36	9.82 212	9.94 834	0.05 166	9.87 378	9.83 051	9.96 357	0.03 643	9.86 694	24
37	9.82 226	9.94 859	0.05 141	9.87 367	9.83 065	9.96 383	0.03 617	9.86 682	23
38	9.82 240	9.94 884	0.05 116	9.87 356	9.83 078	9.96 408	0.03 592	9.86 670	22
39	9.82 255	9.94 910	0.05 090	9.87 345	9.83 092	9.96 433	0.03 567	9.86 659	21
40	9.82 269	9.94 935	0.05 065	9.87 334	9.83 106	9.96 459	0.03 541	9.86 647	**20**
41	9.82 283	9.94 961	0.05 039	9.87 322	9.83 120	9.96 484	0.03 516	9.86 635	19
42	9.82 297	9.94 986	0.05 014	9.87 311	9.83 133	9.96 510	0.03 490	9.86 624	18
43	9.82 311	9.95 012	0.04 988	9.87 300	9.83 147	9.96 535	0.03 465	9.86 612	17
44	9.82 326	9.95 037	0.04 963	9.87 288	9.83 161	9.96 560	0.03 440	9.86 600	16
45	9.82 340	9.95 062	0.04 938	9.87 277	9.83 174	9.96 586	0.03 414	9.86 589	15
46	9.82 354	9.95 088	0.04 912	9.87 266	9.83 188	9.96 611	0.03 389	9.86 577	14
47	9.82 368	9.95 113	0.04 887	9.87 255	9.83 202	9.96 636	0.03 364	9.86 565	13
48	9.82 382	9.95 139	0.04 861	9.87 243	9.83 215	9.96 662	0.03 338	9.86 554	12
49	9.82 396	9.95 164	0.04 836	9.87 232	9.83 229	9.96 687	0.03 313	9.86 542	11
50	9.82 410	9.95 190	0.04 810	9.87 221	9.83 242	9.96 712	0.03 288	9.86 530	**10**
51	9.82 424	9.95 215	0.04 785	9.87 209	9.83 256	9.96 738	0.03 262	9.86 518	9
52	9.82 439	9.95 240	0.04 760	9.87 198	9.83 270	9.96 763	0.03 237	9.86 507	8
53	9.82 453	9.95 266	0.04 734	9.87 187	9.83 283	9.96 788	0.03 212	9.86 495	7
54	9.82 467	9.95 291	0.04 709	9.87 175	9.83 297	9.96 814	0.03 186	9.86 483	6
55	9.82 481	9.95 317	0.04 683	9.87 164	9.83 310	9.96 839	0.03 161	9.86 472	5
56	9.82 495	9.95 342	0.04 658	9.87 153	9.83 324	9.96 864	0.03 136	9.86 460	4
57	9.82 509	9.95 368	0.04 632	9.87 141	9.83 338	9.96 890	0.03 110	9.86 448	3
58	9.82 523	9.95 393	0.04 607	9.87 130	9.83 351	9.96 915	0.03 085	9.86 436	2
59	9.82 537	9.95 418	0.04 582	9.87 119	9.83 365	9.96 940	0.03 060	9.86 425	1
60	9.82 551	9.95 444	0.04 556	9.87 107	9.83 378	9.96 966	0.03 034	9.86 413	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′
	48°				**47°**				

	43°				44°				
′	log sin	log tan	log cot	log cos	log sin	log tan	log cot	log cos	
0	9.83 378	9.96 966	0.03 034	9.86 413	9.84 177	9.98 484	0.01 516	9.85 693	**60**
1	9.83 392	9.96 991	0.03 009	9.86 401	9.84 190	9.98 509	0.01 491	9.85 681	59
2	9.83 405	9.97 016	0.02 984	9.86 389	9.84 203	9.98 534	0.01 466	9.85 669	58
3	9.83 419	9.97 042	0.02 958	9.86 377	9.84 216	9.98 560	0.01 440	9.85 657	57
4	9.83 432	9.97 067	0.02 933	9.86 366	9.84 229	9.98 585	0.01 415	9.85 645	56
5	9.83 446	9.97 092	0.02 908	9.86 354	9.84 242	9.98 610	0.01 390	9.85 632	55
6	9.83 459	9.97 118	0.02 882	9.86 342	9.84 255	9.98 635	0.01 365	9.85 620	54
7	9.83 473	9.97 143	0.02 857	9.86 330	9.84 269	9.98 661	0.01 339	9.85 608	53
8	9.83 486	9.97 168	0.02 832	9.86 318	9.84 282	9.98 686	0.01 314	9.85 596	52
9	9.83 500	9.97 193	0.02 807	9.86 306	9.84 295	9.98 711	0.01 289	9.85 583	51
10	9.83 513	9.97 219	0.02 781	9.86 295	9.84 308	9.98 737	0.01 263	9.85 571	**50**
11	9.83 527	9.97 244	0.02 756	9.86 283	9.84 321	9.98 762	0.01 238	9.85 559	49
12	9.83 540	9.97 269	0.02 731	9.86 271	9.84 334	9.98 787	0.01 213	9.85 547	48
13	9.83 554	9.97 295	0.02 705	9.86 259	9.84 347	9.98 812	0.01 188	9.85 534	47
14	9.83 567	9.97 320	0.02 680	9.86 247	9.84 360	9.98 838	0.01 162	9.85 522	46
15	9.83 581	9.97 345	0.02 655	9.86 235	9.84 373	9.98 863	0.01 137	9.85 510	45
16	9.83 594	9.97 371	0.02 629	9.86 223	9.84 385	9.98 888	0.01 112	9.85 497	44
17	9.83 608	9.97 396	0.02 604	9.86 211	9.84 398	9.98 913	0.01 087	9.85 485	43
18	9.83 621	9.97 421	0.02 579	9.86 200	9.84 411	9.98 939	0.01 061	9.85 473	42
19	9.83 634	9.97 447	0.02 553	9.86 188	9.84 424	9.98 964	0.01 036	9.85 460	41
20	9.83 648	9.97 472	0.02 528	9.86 176	9.84 437	9.98 989	0.01 011	9.85 448	**40**
21	9.83 661	9.97 497	0.02 503	9.86 164	9.84 450	9.99 015	0.00 985	9.85 436	39
22	9.83 674	9.97 523	0.02 477	9.86 152	9.84 463	9.99 040	0.00 960	9.85 423	38
23	9.83 688	9.97 548	0.02 452	9.86 140	9.84 476	9.99 065	0.00 935	9.85 411	37
24	9.83 701	9.97 573	0.02 427	9.86 128	9.84 489	9.99 090	0.00 910	9.85 399	36
25	9.83 715	9.97 598	0.02 402	9.86 116	9.84 502	9.99 116	0.00 884	9.85 386	35
26	9.83 728	9.97 624	0.02 376	9.86 104	9.84 515	9.99 141	0.00 859	9.85 374	34
27	9.83 741	9.97 649	0.02 351	9.86 092	9.84 528	9.99 166	0.00 834	9.85 361	33
28	9.83 755	9.97 674	0.02 326	9.86 080	9.84 540	9.99 191	0.00 809	9.85 349	32
29	9.83 768	9.97 700	0.02 300	9.86 068	9.84 553	9.99 217	0.00 783	9.85 337	31
30	9.83 781	9.97 725	0.02 275	9.86 056	9.84 566	9.99 242	0.00 758	9.85 324	**30**
31	9.83 795	9.97 750	0.02 250	9.86 044	9.84 579	9.99 267	0.00 733	9.85 312	29
32	9.83 808	9.97 776	0.02 224	9.86 032	9.84 592	9.99 293	0.00 707	9.85 299	28
33	9.83 821	9.97 801	0.02 199	9.86 020	9.84 605	9.99 318	0.00 682	9.85 287	27
34	9.83 834	9.97 826	0.02 174	9.86 008	9.84 618	9.99 343	0.00 657	9.85 274	26
35	9.83 848	9.97 851	0.02 149	9.85 996	9.84 630	9.99 368	0.00 632	9.85 262	25
36	9.83 861	9.97 877	0.02 123	9.85 984	9.84 643	9.99 394	0.00 606	9.85 250	24
37	9.83 874	9.97 902	0.02 098	9.85 972	9.84 656	9.99 419	0.00 581	9.85 237	23
38	9.83 887	9.97 927	0.02 073	9.85 960	9.84 669	9.99 444	0.00 556	9.85 225	22
39	9.83 901	9.97 953	0.02 047	9.85 948	9.84 682	9.99 469	0.00 531	9.85 212	21
40	9.83 914	9.97 978	0.02 022	9.85 936	9.84 694	9.99 495	0.00 505	9.85 200	**20**
41	9.83 927	9.98 003	0.01 997	9.85 924	9.84 707	9.99 520	0.00 480	9.85 187	19
42	9.83 940	9.98 029	0.01 971	9.85 912	9.84 720	9.99 545	0.00 455	9.85 175	18
43	9.83 954	9.98 054	0.01 946	9.85 900	9.84 733	9.99 570	0.00 430	9.85 162	17
44	9.83 967	9.98 079	0.01 921	9.85 888	9.84 745	9.99 596	0.00 404	9.85 150	16
45	9.83 980	9.98 104	0.01 896	9.85 876	9.84 758	9.99 621	0.00 379	9.85 137	15
46	9.83 993	9.98 130	0.01 870	9.85 864	9.84 771	9.99 646	0.00 354	9.85 125	14
47	9.84 006	9.98 155	0.01 845	9.85 851	9.84 784	9.99 672	0.00 328	9.85 112	13
48	9.84 020	9.98 180	0.01 820	9.85 839	9.84 796	9.99 697	0.00 303	9.85 100	12
49	9.84 033	9.98 206	0.01 794	9.85 827	9.84 809	9.99 722	0.00 278	9.85 087	11
50	9.84 046	9.98 231	0.01 769	9.85 815	9.84 822	9.99 747	0.00 253	9.85 074	**10**
51	9.84 059	9.98 256	0.01 744	9.85 803	9.84 835	9.99 773	0.00 227	9.85 062	9
52	9.84 072	9.98 281	0.01 719	9.85 791	9.84 847	9.99 798	0.00 202	9.85 049	8
53	9.84 085	9.98 307	0.01 693	9.85 779	9.84 860	9.99 823	0.00 177	9.85 037	7
54	9.84 098	9.98 332	0.01 668	9.85 766	9.84 873	9.99 848	0.00 152	9.85 024	6
55	9.84 112	9.98 357	0.01 643	9.85 754	9.84 885	9.99 874	0.00 126	9.85 012	5
56	9.84 125	9.98 383	0.01 617	9.85 742	9.84 898	9.99 899	0.00 101	9.84 999	4
57	9.84 138	9.98 408	0.01 592	9.85 730	9.84 911	9.99 924	0.00 076	9.84 986	3
58	9.84 151	9.98 433	0.01 567	9.85 718	9.84 923	9.99 949	0.00 051	9.84 974	2
59	9.84 164	9.98 458	0.01 542	9.85 706	9.84 936	9.99 975	0.00 025	9.84 961	1
60	9.84 177	9.98 484	0.01 516	9.85 693	9.84 949	0.00 000	0.00 000	9.84 949	**0**
	log cos	log cot	log tan	log sin	log cos	log cot	log tan	log sin	′

TABLE V.—NATURAL SINES AND COSINES

′	0° sin	cos	1° sin	cos	2° sin	cos	3° sin	cos	4° sin	cos	′
0	0000	1.000	0175	9998	0349	9994	0523	9986	0698	9976	**60**
1	0003	1.000	0177	9998	0352	9994	0526	9986	0700	9975	59
2	0006	1.000	0180	9998	0355	9994	0529	9986	0703	9975	58
3	0009	1.000	0183	9998	0358	9994	0532	9986	0706	9975	57
4	0012	1.000	0186	9998	0361	9993	0535	9986	0709	9975	56
5	0015	1.000	0189	9998	0364	9993	0538	9986	0712	9975	**55**
6	0017	1.000	0192	9998	0366	9993	0541	9985	0715	9974	54
7	0020	1.000	0195	9998	0369	9993	0544	9985	0718	9974	53
8	0023	1.000	0198	9998	0372	9993	0547	9985	0721	9974	52
9	0026	1.000	0201	9998	0375	9993	0550	9985	0724	9974	51
10	0029	1.000	0204	9998	0378	9993	0552	9985	0727	9974	**50**
11	0032	1.000	0207	9998	0381	9993	0555	9985	0729	9973	49
12	0035	1.000	0209	9998	0384	9993	0558	9984	0732	9973	48
13	0038	1.000	0212	9998	0387	9993	0561	9984	0735	9973	47
14	0041	1.000	0215	9998	0390	9992	0564	9984	0738	9973	46
15	0044	1.000	0218	9998	0393	9992	0567	9984	0741	9973	**45**
16	0047	1.000	0221	9998	0396	9992	0570	9984	0744	9972	44
17	0049	1.000	0224	9997	0398	9992	0573	9984	0747	9972	43
18	0052	1.000	0227	9997	0401	9992	0576	9983	0750	9972	42
19	0055	1.000	0230	9997	0404	9992	0579	9983	0753	9972	41
20	0058	1.000	0233	9997	0407	9992	0581	9983	0756	9971	**40**
21	0061	1.000	0236	9997	0410	9992	0584	9983	0758	9971	39
22	0064	1.000	0239	9997	0413	9991	0587	9983	0761	9971	38
23	0067	1.000	0241	9997	0416	9991	0590	9983	0764	9971	37
24	0070	1.000	0244	9997	0419	9991	0593	9982	0767	9971	36
25	0073	1.000	0247	9997	0422	9991	0596	9982	0770	9970	**35**
26	0076	1.000	0250	9997	0425	9991	0599	9982	0773	9970	34
27	0079	1.000	0253	9997	0427	9991	0602	9982	0776	9970	33
28	0081	1.000	0256	9997	0430	9991	0605	9982	0779	9970	32
29	0084	1.000	0259	9997	0433	9991	0608	9982	0782	9969	31
30	0087	1.000	0262	9997	0436	9990	0610	9981	0785	9969	**30**
31	0090	1.000	0265	9996	0439	9990	0613	9981	0787	9969	29
32	0093	1.000	0268	9996	0442	9990	0616	9981	0790	9969	28
33	0096	1.000	0270	9996	0445	9990	0619	9981	0793	9968	27
34	0099	1.000	0273	9996	0448	9990	0622	9981	0796	9968	26
35	0102	9999	0276	9996	0451	9990	0625	9980	0799	9968	**25**
36	0105	9999	0279	9996	0454	9990	0628	9980	0802	9968	24
37	0108	9999	0282	9996	0457	9990	0631	9980	0805	9968	23
38	0111	9999	0285	9996	0459	9989	0634	9980	0808	9967	22
39	0113	9999	0288	9996	0462	9989	0637	9980	0811	9967	21
40	0116	9999	0291	9996	0465	9989	0640	9980	0814	9967	**20**
41	0119	9999	0294	9996	0468	9989	0642	9979	0816	9967	19
42	0122	9999	0297	9996	0471	9989	0645	9979	0819	9966	18
43	0125	9999	0300	9996	0474	9989	0648	9979	0822	9966	17
44	0128	9999	0302	9995	0477	9989	0651	9979	0825	9966	16
45	0131	9999	0305	9995	0480	9988	0654	9979	0828	9966	**15**
46	0134	9999	0308	9995	0483	9988	0657	9978	0831	9965	14
47	0137	9999	0311	9995	0486	9988	0660	9978	0834	9965	13
48	0140	9999	0314	9995	0488	9988	0663	9978	0837	9965	12
49	0143	9999	0317	9995	0491	9988	0666	9978	0840	9965	11
50	0145	9999	0320	9995	0494	9988	0669	9978	0843	9964	**10**
51	0148	9999	0323	9995	0497	9988	0671	9977	0845	9964	9
52	0151	9999	0326	9995	0500	9987	0674	9977	0848	9964	8
53	0154	9999	0329	9995	0503	9987	0677	9977	0851	9964	7
54	0157	9999	0332	9995	0506	9987	0680	9977	0854	9963	6
55	0160	9999	0334	9994	0509	9987	0683	9977	0857	9963	**5**
56	0163	9999	0337	9994	0512	9987	0686	9976	0860	9963	4
57	0166	9999	0340	9994	0515	9987	0689	9976	0863	9963	3
58	0169	9999	0343	9994	0518	9987	0692	9976	0866	9962	2
59	0172	9999	0346	9994	0520	9986	0695	9976	0869	9962	1
60	0175	9999	0349	9994	0523	9986	0698	9976	0872	9962	**0**
	cos	sin	cos	sin	cos	sin	cos	sin	cos	sin	

′	89°	88°	87°	86°	85°	′

TABLE V. — NATURAL SINES AND COSINES

′	5°		6°		7°		8°		9°		′
	sin	cos	sin	cos	sin	cos	sin	cos	sin	cos	
0	0872	9962	1045	9945	1219	9925	1392	9903	1564	9877	**60**
1	0874	9962	1048	9945	1222	9925	1395	9902	1567	9876	59
2	0877	9962	1051	9945	1224	9925	1397	9902	1570	9876	58
3	0880	9961	1054	9944	1227	9924	1400	9901	1573	9876	57
4	0883	9961	1057	9944	1230	9924	1403	9901	1576	9875	56
5	0886	9961	1060	9944	1233	9924	1406	9901	1579	9875	**55**
6	0889	9960	1063	9943	1236	9923	1409	9900	1582	9874	54
7	0892	9960	1066	9943	1239	9923	1412	9900	1584	9874	53
8	0895	9960	1068	9943	1241	9923	1415	9899	1587	9873	52
9	0898	9960	1071	9942	1245	9922	1418	9899	1590	9873	51
10	0901	9959	1074	9942	1248	9922	1421	9898	1593	9872	**50**
11	0903	9959	1077	9942	1250	9922	1423	9898	1596	9872	49
12	0906	9959	1080	9942	1253	9921	1426	9898	1599	9871	48
13	0909	9959	1083	9941	1256	9921	1429	9897	1602	9871	47
14	0912	9958	1086	9941	1259	9920	1432	9897	1605	9870	46
15	0915	9958	1089	9941	1262	9920	1435	9897	1607	9870	**45**
16	0918	9958	1092	9940	1265	9920	1438	9896	1610	9869	44
17	0921	9957	1094	9940	1268	9919	1441	9896	1613	9869	43
18	0924	9957	1097	9940	1271	9919	1444	9895	1616	9869	42
19	0927	9957	1100	9939	1274	9919	1446	9895	1619	9868	41
20	0929	9957	1103	9939	1276	9918	1449	9894	1622	9868	**40**
21	0932	9956	1106	9939	1279	9918	1452	9894	1625	9867	39
22	0935	9956	1109	9938	1282	9917	1455	9894	1628	9867	38
23	0938	9956	1112	9938	1285	9917	1458	9893	1630	9866	37
24	0941	9956	1115	9938	1288	9917	1461	9893	1633	9866	36
25	0944	9955	1118	9937	1291	9916	1464	9892	1636	9865	**35**
26	0947	9955	1120	9937	1294	9916	1467	9892	1639	9865	34
27	0950	9955	1123	9937	1297	9916	1469	9891	1642	9864	33
28	0953	9955	1126	9936	1299	9915	1472	9891	1645	9864	32
29	0956	9954	1129	9936	1302	9915	1475	9891	1648	9863	31
30	0958	9954	1132	9936	1305	9914	1478	9890	1650	9863	**30**
31	0961	9954	1135	9935	1308	9914	1481	9890	1653	9862	29
32	0964	9953	1138	9935	1311	9914	1484	9889	1656	9862	28
33	0967	9953	1141	9935	1314	9913	1487	9889	1659	9861	27
34	0970	9953	1144	9934	1317	9913	1490	9888	1662	9861	26
35	0973	9953	1146	9934	1320	9913	1492	9888	1665	9860	**25**
36	0976	9952	1149	9934	1323	9912	1495	9888	1668	9860	24
37	0979	9952	1152	9933	1325	9912	1498	9887	1671	9859	23
38	0982	9952	1155	9933	1328	9911	1501	9887	1673	9859	22
39	0985	9951	1158	9933	1331	9911	1504	9886	1676	9859	21
40	0987	9951	1161	9932	1334	9911	1507	9886	1679	9858	**20**
41	0990	9951	1164	9932	1337	9910	1510	9885	1682	9858	19
42	0993	9951	1167	9932	1340	9910	1513	9885	1685	9857	18
43	0996	9950	1170	9931	1343	9909	1515	9884	1688	9857	17
44	0999	9950	1172	9931	1346	9909	1518	9884	1691	9856	16
45	1002	9950	1175	9931	1349	9909	1521	9884	1693	9856	**15**
46	1005	9949	1178	9930	1351	9908	1524	9883	1696	9855	14
47	1008	9949	1181	9930	1354	9908	1527	9883	1699	9855	13
48	1011	9949	1184	9930	1357	9907	1530	9882	1702	9854	12
49	1013	9949	1187	9929	1360	9907	1533	9882	1705	9854	11
50	1016	9948	1190	9929	1363	9907	1536	9881	1708	9853	**10**
51	1019	9948	1193	9929	1366	9906	1538	9881	1711	9853	9
52	1022	9948	1196	9928	1369	9906	1541	9880	1714	9852	8
53	1025	9947	1198	9928	1372	9905	1544	9880	1716	9852	7
54	1028	9947	1201	9928	1374	9905	1547	9880	1719	9851	6
55	1031	9947	1204	9927	1377	9905	1550	9879	1722	9851	**5**
56	1034	9946	1207	9927	1380	9904	1553	9879	1725	9850	4
57	1037	9946	1210	9927	1383	9904	1556	9878	1728	9850	3
58	1039	9946	1213	9926	1386	9903	1559	9878	1731	9849	2
59	1042	9946	1216	9926	1389	9903	1561	9877	1734	9849	1
60	1045	9945	1219	9925	1392	9903	1564	9877	1736	9848	**0**
	cos	sin	cos	sin	cos	sin	cos	sin	cos	sin	
′	84°		83°		82°		81°		80°		′

TABLE V. — NATURAL SINES AND COSINES

′	10° sin	cos	11° sin	cos	12° sin	cos	13° sin	cos	14° sin	cos	′
0	1736	9848	1908	9816	2079	9781	2250	9744	2419	9703	60
1	1739	9848	1911	9816	2082	9781	2252	9743	2422	9702	59
2	1742	9847	1914	9815	2085	9780	2255	9742	2425	9702	58
3	1745	9847	1917	9815	2088	9780	2258	9742	2428	9701	57
4	1748	9846	1920	9814	2090	9779	2261	9741	2431	9700	56
5	1751	9846	1922	9813	2093	9778	2264	9740	2433	9699	55
6	1754	9845	1925	9813	2096	9778	2267	9740	2436	9699	54
7	1757	9845	1928	9812	2099	9777	2269	9739	2439	9698	53
8	1759	9844	1931	9812	2102	9777	2272	9738	2442	9697	52
9	1762	9843	1934	9811	2105	9776	2275	9738	2445	9697	51
10	1765	9843	1937	9811	2108	9775	2278	9737	2447	9696	50
11	1768	9842	1939	9810	2110	9775	2281	9736	2450	9695	49
12	1771	9842	1942	9810	2113	9774	2284	9736	2453	9694	48
13	1774	9841	1945	9809	2116	9774	2286	9735	2456	9694	47
14	1777	9841	1948	9808	2119	9773	2289	9734	2459	9693	46
15	1779	9840	1951	9808	2122	9772	2292	9734	2462	9692	45
16	1782	9840	1954	9807	2125	9772	2295	9733	2464	9692	44
17	1785	9839	1957	9807	2127	9771	2298	9732	2467	9691	43
18	1788	9839	1959	9806	2130	9770	2300	9732	2470	9690	42
19	1791	9838	1962	9806	2133	9770	2303	9731	2473	9689	41
20	1794	9838	1965	9805	2136	9769	2306	9730	2476	9689	40
21	1797	9837	1968	9804	2139	9769	2309	9730	2478	9688	39
22	1799	9837	1971	9804	2142	9768	2312	9729	2481	9687	38
23	1802	9836	1974	9803	2145	9767	2315	9728	2484	9687	37
24	1805	9836	1977	9803	2147	9767	2317	9728	2487	9686	36
25	1808	9835	1979	9802	2150	9766	2320	9727	2490	9685	35
26	1811	9835	1982	9802	2153	9765	2323	9726	2493	9684	34
27	1814	9834	1985	9801	2156	9765	2326	9726	2495	9684	33
28	1817	9834	1988	9800	2159	9764	2329	9725	2498	9683	32
29	1819	9833	1991	9800	2162	9764	2332	9724	2501	9682	31
30	1822	9833	1994	9799	2164	9763	2334	9724	2504	9681	30
31	1825	9832	1997	9799	2167	9762	2337	9723	2507	9681	29
32	1828	9831	1999	9798	2170	9762	2340	9722	2509	9680	28
33	1831	9831	2002	9798	2173	9761	2343	9722	2512	9679	27
34	1834	9830	2005	9797	2176	9760	2346	9721	2515	9679	26
35	1837	9830	2008	9796	2179	9760	2349	9720	2518	9678	25
36	1840	9829	2011	9796	2181	9759	2351	9720	2521	9677	24
37	1842	9829	2014	9795	2184	9759	2354	9719	2524	9676	23
38	1845	9828	2016	9795	2187	9758	2357	9718	2526	9676	22
39	1848	9828	2019	9794	2190	9757	2360	9718	2529	9675	21
40	1851	9827	2022	9793	2193	9757	2363	9717	2532	9674	20
41	1854	9827	2025	9793	2196	9756	2366	9716	2535	9673	19
42	1857	9826	2028	9792	2198	9755	2368	9715	2538	9673	18
43	1860	9826	2031	9792	2201	9755	2371	9715	2540	9672	17
44	1862	9825	2034	9791	2204	9754	2374	9714	2543	9671	16
45	1865	9825	2036	9790	2207	9753	2377	9713	2546	9670	15
46	1868	9824	2039	9790	2210	9753	2380	9713	2549	9670	14
47	1871	9823	2042	9789	2213	9752	2383	9712	2552	9669	13
48	1874	9823	2045	9789	2215	9751	2385	9711	2554	9668	12
49	1877	9822	2048	9788	2218	9751	2388	9711	2557	9667	11
50	1880	9822	2051	9787	2221	9750	2391	9710	2560	9667	10
51	1882	9821	2054	9787	2224	9750	2394	9709	2563	9666	9
52	1885	9821	2056	9786	2227	9749	2397	9709	2566	9665	8
53	1888	9820	2059	9786	2230	9748	2399	9708	2569	9665	7
54	1891	9820	2062	9785	2233	9748	2402	9707	2571	9664	6
55	1894	9819	2065	9784	2235	9747	2405	9706	2574	9663	5
56	1897	9818	2068	9784	2238	9746	2408	9706	2577	9662	4
57	1900	9818	2071	9783	2241	9746	2411	9705	2580	9662	3
58	1902	9817	2073	9783	2244	9745	2414	9704	2583	9661	2
59	1905	9817	2076	9782	2247	9744	2416	9704	2585	9660	1
60	1908	9816	2079	9781	2250	9744	2419	9703	2588	9659	0
	cos	sin	cos	sin	cos	sin	cos	sin	cos	sin	
′	79°		78°		77°		76°		75°		′

TABLE V. — NATURAL SINES AND COSINES

′	15°		16°		17°		18°		19°		′
	sin	cos	sin	cos	sin	cos	sin	cos	sin	cos	
0	2588	9659	2756	9613	2924	9563	3090	9511	3256	9455	**60**
1	2591	9659	2759	9612	2926	9562	3093	9510	3258	9454	59
2	2594	9658	2762	9611	2929	9561	3096	9509	3261	9453	58
3	2597	9657	2765	9610	2932	9560	3098	9508	3264	9452	57
4	2599	9656	2768	9609	2935	9560	3101	9507	3267	9451	56
5	2602	9655	2770	9609	2938	9559	3104	9506	3269	9450	**55**
6	2605	9655	2773	9608	2940	9558	3107	9505	3272	9449	54
7	2608	9654	2776	9607	2943	9557	3110	9504	3275	9449	53
8	2611	9653	2779	9606	2946	9556	3112	9503	3278	9448	52
9	2613	9652	2782	9605	2949	9555	3115	9502	3280	9447	51
10	2616	9652	2784	9605	2952	9555	3118	9502	3283	9446	**50**
11	2619	9651	2787	9604	2954	9554	3121	9501	3286	9445	49
12	2622	9650	2790	9603	2957	9553	3123	9500	3289	9444	48
13	2625	9649	2793	9602	2960	9552	3126	9499	3291	9443	47
14	2628	9649	2795	9601	2963	9551	3129	9498	3294	9442	46
15	2630	9648	2798	9600	2965	9550	3132	9497	3297	9441	**45**
16	2633	9647	2801	9600	2968	9549	3134	9496	3300	9440	44
17	2636	9646	2804	9599	2971	9548	3137	9495	3302	9439	43
18	2639	9646	2807	9598	2974	9548	3140	9494	3305	9438	42
19	2642	9645	2809	9597	2977	9547	3143	9493	3308	9437	41
20	2644	9644	2812	9596	2979	9546	3145	9492	3311	9436	**40**
21	2647	9643	2815	9595	2982	9545	3148	9492	3313	9435	39
22	2650	9642	2818	9595	2985	9544	3151	9491	3316	9434	38
23	2653	9642	2821	9594	2988	9543	3154	9490	3319	9433	37
24	2656	9641	2823	9593	2990	9542	3156	9489	3322	9432	36
25	2658	9640	2826	9592	2993	9542	3159	9488	3324	9431	**35**
26	2661	9639	2829	9591	2996	9541	3162	9487	3327	9430	34
27	2664	9639	2832	9591	2999	9540	3165	9486	3330	9429	33
28	2667	9638	2835	9590	3002	9539	3168	9485	3333	9428	32
29	2670	9637	2837	9589	3004	9538	3170	9484	3335	9427	31
30	2672	9636	2840	9588	3007	9537	3173	9483	3338	9426	**30**
31	2675	9636	2843	9587	3010	9536	3176	9482	3341	9425	29
32	2678	9635	2846	9587	3013	9535	3179	9481	3344	9424	28
33	2681	9634	2849	9586	3015	9535	3181	9480	3346	9423	27
34	2684	9633	2851	9585	3018	9534	3184	9480	3349	9423	26
35	2686	9632	2854	9584	3021	9533	3187	9479	3352	9422	**25**
36	2689	9632	2857	9583	3024	9532	3190	9478	3355	9421	24
37	2692	9631	2860	9582	3026	9531	3192	9477	3357	9420	23
38	2695	9630	2862	9582	3029	9530	3195	9476	3360	9419	22
39	2698	9629	2865	9581	3032	9529	3198	9475	3363	9418	21
40	2700	9628	2868	9580	3035	9528	3201	9474	3365	9417	**20**
41	2703	9628	2871	9579	3038	9527	3203	9473	3368	9416	19
42	2706	9627	2874	9578	3040	9527	3206	9472	3371	9415	18
43	2709	9626	2876	9577	3043	9526	3209	9471	3374	9414	17
44	2712	9625	2879	9577	3046	9525	3212	9470	3376	9413	16
45	2714	9625	2882	9576	3049	9524	3214	9469	3379	9412	**15**
46	2717	9624	2885	9575	3051	9523	3217	9468	3382	9411	14
47	2720	9623	2888	9574	3054	9522	3220	9467	3385	9410	13
48	2723	9622	2890	9573	3057	9521	3223	9466	3387	9409	12
49	2726	9621	2893	9572	3060	9520	3225	9466	3390	9408	11
50	2728	9621	2896	9572	3062	9520	3228	9465	3393	9407	**10**
51	2731	9620	2899	9571	3065	9519	3231	9464	3396	9406	9
52	2734	9619	2901	9570	3068	9518	3234	9463	3398	9405	8
53	2737	9618	2904	9569	3071	9517	3236	9462	3401	9404	7
54	2740	9617	2907	9568	3074	9516	3239	9461	3404	9403	6
55	2742	9617	2910	9567	3076	9515	3242	9460	3407	9402	**5**
56	2745	9616	2913	9566	3079	9514	3245	9459	3409	9401	4
57	2748	9615	2915	9566	3082	9513	3247	9458	3412	9400	3
58	2751	9614	2918	9565	3085	9512	3250	9457	3415	9399	2
59	2754	9613	2921	9564	3087	9511	3253	9456	3417	9398	1
60	2756	9613	2924	9563	3090	9511	3256	9455	3420	9397	**0**
	cos	sin	cos	sin	cos	sin	cos	sin	cos	sin	

′	74°	73°	72°	71°	70°	′

TABLE V. — NATURAL SINES AND COSINES

′	20°		21°		22°		23°		24°		′
	sin	cos	sin	cos	sin	cos	sin	cos	sin	cos	
0	3420	9397	3584	9336	3746	9272	3907	9205	4067	9135	60
1	3423	9396	3586	9335	3749	9271	3910	9204	4070	9134	59
2	3426	9395	3589	9334	3751	9270	3913	9203	4073	9133	58
3	3428	9394	3592	9333	3754	9269	3915	9202	4075	9132	57
4	3431	9393	3595	9332	3757	9267	3918	9200	4078	9131	56
5	3434	9392	3597	9331	3760	9266	3921	9199	4081	9130	55
6	3437	9391	3600	9330	3762	9265	3923	9198	4083	9128	54
7	3439	9390	3603	9328	3765	9264	3926	9197	4086	9127	53
8	3442	9389	3605	9327	3768	9263	3929	9196	4089	9126	52
9	3445	9388	3608	9326	3770	9262	3931	9195	4091	9125	51
10	3448	9387	3611	9325	3773	9261	3934	9194	4094	9124	50
11	3450	9386	3614	9324	3776	9260	3937	9192	4097	9122	49
12	3453	9385	3616	9323	3778	9259	3939	9191	4099	9121	48
13	3456	9384	3619	9322	3781	9258	3942	9190	4102	9120	47
14	3458	9383	3622	9321	3784	9257	3945	9189	4105	9119	46
15	3461	9382	3624	9320	3786	9255	3947	9188	4107	9118	45
16	3464	9381	3627	9319	3789	9254	3950	9187	4110	9116	44
17	3467	9380	3630	9318	3792	9253	3953	9186	4112	9115	43
18	3469	9379	3633	9317	3795	9252	3955	9184	4115	9114	42
19	3472	9378	3635	9316	3797	9251	3958	9183	4118	9113	41
20	3475	9377	3638	9315	3800	9250	3961	9182	4120	9112	40
21	3478	9376	3641	9314	3803	9249	3963	9181	4123	9110	39
22	3480	9375	3643	9313	3805	9248	3966	9180	4126	9109	38
23	3483	9374	3646	9312	3808	9247	3969	9179	4128	9108	37
24	3486	9373	3649	9311	3811	9245	3971	9178	4131	9107	36
25	3488	9372	3651	9309	3813	9244	3974	9176	4134	9106	35
26	3491	9371	3654	9308	3816	9243	3977	9175	4136	9104	34
27	3494	9370	3657	9307	3819	9242	3979	9174	4139	9103	33
28	3497	9369	3660	9306	3821	9241	3982	9173	4142	9102	32
29	3499	9368	3662	9305	3824	9240	3985	9172	4144	9101	31
30	3502	9367	3665	9304	3827	9239	3987	9171	4147	9100	30
31	3505	9366	3668	9303	3830	9238	3990	9169	4150	9098	29
32	3508	9365	3670	9302	3832	9237	3993	9168	4152	9097	28
33	3510	9364	3673	9301	3835	9235	3995	9167	4155	9096	27
34	3513	9363	3676	9300	3838	9234	3998	9166	4158	9095	26
35	3516	9362	3679	9299	3840	9233	4001	9165	4160	9094	25
36	3518	9361	3681	9298	3843	9232	4003	9164	4163	9092	24
37	3521	9360	3684	9297	3846	9231	4006	9162	4165	9091	23
38	3524	9359	3687	9296	3848	9230	4009	9161	4168	9090	22
39	3527	9358	3689	9295	3851	9229	4011	9160	4171	9088	21
40	3529	9356	3692	9293	3854	9228	4014	9159	4173	9088	20
41	3532	9355	3695	9292	3856	9227	4017	9158	4176	9086	19
42	3535	9354	3697	9291	3859	9225	4019	9157	4179	9085	18
43	3537	9353	3700	9290	3862	9224	4022	9155	4181	9084	17
44	3540	9352	3703	9289	3864	9223	4025	9154	4184	9083	16
45	3543	9351	3706	9288	3867	9222	4027	9153	4187	9081	15
46	3546	9350	3708	9287	3870	9221	4030	9152	4189	9080	14
47	3548	9349	3711	9286	3872	9220	4033	9151	4192	9079	13
48	3551	9348	3714	9285	3875	9219	4035	9150	4195	9078	12
49	3554	9347	3716	9284	3878	9218	4038	9148	4197	9077	11
50	3557	9346	3719	9283	3881	9216	4041	9147	4200	9075	10
51	3559	9345	3722	9282	3883	9215	4043	9146	4202	9074	9
52	3562	9344	3724	9281	3886	9214	4046	9145	4205	9073	8
53	3565	9343	3727	9279	3889	9213	4049	9144	4208	9072	7
54	3567	9342	3730	9278	3891	9212	4051	9143	4210	9070	6
55	3570	9341	3733	9277	3894	9211	4054	9141	4213	9069	5
56	3573	9340	3735	9276	3897	9210	4057	9140	4216	9068	4
57	3576	9339	3738	9275	3899	9208	4059	9139	4218	9067	3
58	3578	9338	3741	9274	3902	9207	4062	9138	4221	9066	2
59	3581	9337	3743	9273	3905	9206	4065	9137	4224	9064	1
60	3584	9336	3746	9272	3907	9205	4067	9135	4226	9063	0
	cos	sin	cos	sin	cos	sin	cos	sin	cos	sin	
′	69°		68°		67°		66°		65°		′

TABLE V. — NATURAL SINES AND COSINES

′	25° sin	cos	26° sin	cos	27° sin	cos	28° sin	cos	29° sin	cos	′
0	4226	9063	4384	8988	4540	8910	4695	8829	4848	8746	**60**
1	4229	9062	4386	8987	4542	8909	4697	8828	4851	8745	59
2	4231	9061	4389	8985	4545	8907	4700	8827	4853	8743	58
3	4234	9059	4392	8984	4548	8906	4702	8825	4856	8742	57
4	4237	9058	4394	8983	4550	8905	4705	8824	4858	8741	56
5	4239	9057	4397	8982	4553	8903	4708	8823	4861	8739	**55**
6	4242	9056	4399	8980	4555	8902	4710	8821	4863	8738	54
7	4245	9054	4402	8979	4558	8901	4713	8820	4866	8736	53
8	4247	9053	4405	8978	4561	8899	4715	8819	4868	8735	52
9	4250	9052	4407	8976	4563	8898	4718	8817	4871	8733	51
10	4253	9051	4410	8975	4566	8897	4720	8816	4874	8732	**50**
11	4255	9050	4412	8974	4568	8895	4723	8814	4876	8731	49
12	4258	9048	4415	8973	4571	8894	4726	8813	4879	8729	48
13	4260	9047	4418	8971	4574	8893	4728	8812	4881	8728	47
14	4263	9046	4420	8970	4576	8892	4731	8810	4884	8726	46
15	4266	9045	4423	8969	4579	8890	4733	8809	4886	8725	**45**
16	4268	9043	4425	8967	4581	8889	4736	8808	4889	8724	44
17	4271	9042	4428	8966	4584	8888	4738	8806	4891	8722	43
18	4274	9041	4431	8965	4586	8886	4741	8805	4894	8721	42
19	4276	9040	4433	8964	4589	8885	4743	8803	4896	8719	41
20	4279	9038	4436	8962	4592	8884	4746	8802	4899	8718	**40**
21	4281	9037	4439	8961	4594	8882	4749	8801	4901	8716	39
22	4284	9036	4441	8960	4597	8881	4751	8799	4904	8715	38
23	4287	9035	4444	8958	4599	8879	4754	8798	4907	8714	37
24	4289	9033	4446	8957	4602	8878	4756	8796	4909	8712	36
25	4292	9032	4449	8956	4605	8877	4759	8795	4912	8711	**35**
26	4295	9031	4452	8955	4607	8875	4761	8794	4914	8709	34
27	4297	9030	4454	8953	4610	8874	4764	8792	4917	8708	33
28	4300	9028	4457	8952	4612	8873	4766	8791	4919	8706	32
29	4302	9027	4459	8951	4615	8871	4769	8790	4922	8705	31
30	4305	9026	4462	8949	4617	8870	4772	8788	4924	8704	**30**
31	4308	9025	4465	8948	4620	8869	4774	8787	4927	8702	29
32	4310	9023	4467	8947	4623	8867	4777	8785	4929	8701	28
33	4313	9022	4470	8945	4625	8866	4779	8784	4932	8699	27
34	4316	9021	4472	8944	4628	8865	4782	8783	4934	8698	26
35	4318	9020	4475	8943	4630	8863	4784	8781	4937	8696	**25**
36	4321	9018	4478	8942	4633	8862	4787	8780	4939	8695	24
37	4323	9017	4480	8940	4636	8861	4789	8778	4942	8694	23
38	4326	9016	4483	8939	4638	8859	4792	8777	4944	8692	22
39	4329	9014	4485	8938	4641	8858	4795	8776	4947	8691	21
40	4331	9013	4488	8936	4643	8857	4797	8774	4950	8689	**20**
41	4334	9012	4491	8935	4646	8855	4800	8773	4952	8688	19
42	4337	9011	4493	8934	4648	8854	4802	8771	4955	8686	18
43	4339	9010	4496	8932	4651	8853	4805	8770	4957	8685	17
44	4342	9008	4498	8931	4654	8851	4807	8769	4960	8683	16
45	4344	9007	4501	8930	4656	8850	4810	8767	4962	8682	**15**
46	4347	9006	4504	8928	4659	8849	4812	8766	4965	8681	14
47	4350	9004	4506	8927	4661	8847	4815	8764	4967	8679	13
48	4352	9003	4509	8926	4664	8846	4818	8763	4970	8678	12
49	4355	9002	4511	8925	4666	8844	4820	8762	4972	8676	11
50	4358	9001	4514	8923	4669	8843	4823	8760	4975	8675	**10**
51	4360	8999	4517	8922	4672	8842	4825	8759	4977	8673	9
52	4363	8998	4519	8921	4674	8840	4828	8757	4980	8672	8
53	4365	8997	4522	8919	4677	8839	4830	8756	4982	8670	7
54	4368	8996	4524	8918	4679	8838	4833	8755	4985	8669	6
55	4371	8994	4527	8917	4682	8836	4835	8753	4987	8668	**5**
56	4373	8993	4530	8915	4684	8835	4838	8752	4990	8666	4
57	4376	8992	4532	8914	4687	8834	4840	8750	4992	8665	3
58	4378	8990	4535	8913	4690	8832	4843	8749	4995	8663	2
59	4381	8989	4537	8911	4692	8831	4846	8748	4997	8662	1
60	4384	8988	4540	8910	4695	8829	4848	8746	5000	8660	**0**
	cos	sin	cos	sin	cos	sin	cos	sin	cos	sin	
′	64°		63°		62°		61°		60°		′

TABLE V. — NATURAL SINES AND COSINES

′	30°		31°		32°		33°		34°		′
	sin	cos	sin	cos	sin	cos	sin	cos	sin	cos	
0	5000	8660	5150	8572	5299	8480	5446	8387	5592	8290	60
1	5003	8659	5153	8570	5302	8479	5449	8385	5594	8289	59
2	5005	8657	5155	8569	5304	8477	5451	8384	5597	8287	58
3	5008	8656	5158	8567	5307	8476	5454	8382	5599	8285	57
4	5010	8654	5160	8566	5309	8474	5456	8380	5602	8284	56
5	5013	8653	5163	8564	5312	8473	5459	8379	5604	8282	55
6	5015	8652	5165	8563	5314	8471	5461	8377	5606	8281	54
7	5018	8650	5168	8561	5316	8470	5463	8376	5609	8279	53
8	5020	8649	5170	8560	5319	8468	5466	8374	5611	8277	52
9	5023	8647	5173	8558	5321	8467	5468	8372	5614	8276	51
10	5025	8646	5175	8557	5324	8465	5471	8371	5616	8274	50
11	5028	8644	5178	8555	5326	8463	5473	8369	5618	8272	49
12	5030	8643	5180	8554	5329	8462	5476	8368	5621	8271	48
13	5033	8641	5183	8552	5331	8460	5478	8366	5623	8269	47
14	5035	8640	5185	8551	5334	8459	5480	8364	5626	8268	46
15	5038	8638	5188	8549	5336	8457	5483	8363	5628	8266	45
16	5040	8637	5190	8548	5339	8456	5485	8361	5630	8264	44
17	5043	8635	5193	8546	5341	8454	5488	8360	5633	8263	43
18	5045	8634	5195	8545	5344	8453	5490	8358	5635	8261	42
19	5048	8632	5198	8543	5346	8451	5493	8356	5638	8259	41
20	5050	8631	5200	8542	5348	8450	5495	8355	5640	8258	40
21	5053	8630	5203	8540	5351	8448	5498	8353	5642	8256	39
22	5055	8628	5205	8539	5353	8446	5500	8352	5645	8254	38
23	5058	8627	5208	8537	5356	8445	5502	8350	5647	8253	37
24	5060	8625	5210	8536	5358	8443	5505	8348	5650	8251	36
25	5063	8624	5213	8534	5361	8442	5507	8347	5652	8249	35
26	5065	8622	5215	8532	5363	8440	5510	8345	5654	8248	34
27	5068	8621	5218	8531	5366	8439	5512	8344	5657	8246	33
28	5070	8619	5220	8529	5368	8437	5515	8342	5659	8245	32
29	5073	8618	5223	8528	5371	8435	5517	8340	5662	8243	31
30	5075	8616	5225	8526	5373	8434	5519	8339	5664	8241	30
31	5078	8615	5227	8525	5375	8432	5522	8337	5666	8240	29
32	5080	8613	5230	8523	5378	8431	5524	8336	5669	8238	28
33	5083	8612	5232	8522	5380	8429	5527	8334	5671	8236	27
34	5085	8610	5235	8520	5383	8428	5529	8332	5674	8235	26
35	5088	8609	5237	8519	5385	8426	5531	8331	5676	8233	25
36	5090	8607	5240	8517	5388	8425	5534	8329	5678	8231	24
37	5093	8606	5242	8516	5390	8423	5536	8328	5681	8230	23
38	5095	8604	5245	8514	5393	8421	5539	8326	5683	8228	22
39	5098	8603	5247	8513	5395	8420	5541	8324	5686	8226	21
40	5100	8601	5250	8511	5398	8418	5544	8323	5688	8225	20
41	5103	8600	5252	8510	5400	8417	5546	8321	5690	8223	19
42	5105	8599	5255	8508	5402	8415	5548	8320	5693	8221	18
43	5108	8597	5257	8507	5405	8414	5551	8318	5695	8220	17
44	5110	8596	5260	8505	5407	8412	5553	8316	5698	8218	16
45	5113	8594	5262	8504	5410	8410	5556	8315	5700	8216	15
46	5115	8593	5265	8502	5412	8409	5558	8313	5702	8215	14
47	5118	8591	5267	8500	5415	8407	5561	8311	5705	8213	13
48	5120	8590	5270	8499	5417	8406	5563	8310	5707	8211	12
49	5123	8588	5272	8497	5420	8404	5565	8308	5710	8210	11
50	5125	8587	5275	8496	5422	8403	5568	8307	5712	8208	10
51	5128	8585	5277	8494	5424	8401	5570	8305	5714	8207	9
52	5130	8584	5279	8493	5427	8399	5573	8303	5717	8205	8
53	5133	8582	5282	8491	5429	8398	5575	8302	5719	8203	7
54	5135	8581	5284	8490	5432	8396	5577	8300	5721	8202	6
55	5138	8579	5287	8488	5434	8395	5580	8299	5724	8200	5
56	5140	8578	5289	8487	5437	8393	5582	8297	5726	8198	4
57	5143	8576	5292	8485	5439	8391	5585	8295	5729	8197	3
58	5145	8575	5294	8484	5442	8390	5587	8294	5731	8195	2
59	5148	8573	5297	8482	5444	8388	5590	8292	5733	8193	1
60	5150	8572	5299	8480	5446	8387	5592	8290	5736	8192	0
	cos	sin	cos	sin	cos	sin	cos	sin	cos	sin	
′	59°		58°		57°		56°		55°		′

TABLE V. — NATURAL SINES AND COSINES

′	35°		36°		37°		38°		39°		′
	sin	cos	sin	cos	sin	cos	sin	cos	sin	cos	
0	5736	8192	5878	8090	6018	7986	6157	7880	6293	7771	60
1	5738	8190	5880	8088	6020	7985	6159	7878	6295	7770	59
2	5741	8188	5883	8087	6023	7983	6161	7877	6298	7768	58
3	5743	8187	5885	8085	6025	7981	6163	7875	6300	7766	57
4	5745	8185	5887	8083	6027	7979	6166	7873	6302	7764	56
5	5748	8183	5890	8082	6030	7978	6168	7871	6305	7762	55
6	5750	8181	5892	8080	6032	7976	6170	7869	6307	7760	54
7	5752	8180	5894	8078	6034	7974	6173	7868	6309	7759	53
8	5755	8178	5897	8076	6037	7972	6175	7866	6311	7757	52
9	5757	8176	5899	8075	6039	7970	6177	7864	6314	7755	51
10	5760	8175	5901	8073	6041	7969	6180	7862	6316	7753	50
11	5762	8173	5904	8071	6044	7967	6182	7860	6318	7751	49
12	5764	8171	5906	8070	6046	7965	6184	7859	6320	7749	48
13	5767	8170	5908	8068	6048	7964	6186	7857	6323	7748	47
14	5769	8168	5911	8066	6051	7962	6189	7855	6325	7746	46
15	5771	8166	5913	8064	6053	7960	6191	7853	6327	7744	45
16	5774	8165	5915	8063	6055	7958	6193	7851	6329	7742	44
17	5776	8163	5918	8061	6058	7956	6196	7850	6332	7740	43
18	5779	8161	5920	8059	6060	7955	6198	7848	6334	7738	42
19	5781	8160	5922	8058	6062	7953	6200	7846	6336	7737	41
20	5783	8158	5925	8056	6065	7951	6202	7844	6338	7735	40
21	5786	8156	5927	8054	6067	7950	6205	7842	6341	7733	39
22	5788	8155	5930	8052	6069	7948	6207	7841	6343	7731	38
23	5790	8153	5932	8051	6071	7946	6209	7839	6345	7729	37
24	5793	8151	5934	8049	6074	7944	6211	7837	6347	7727	36
25	5795	8150	5937	8047	6076	7942	6214	7835	6350	7725	35
26	5798	8148	5939	8045	6078	7941	6216	7833	6352	7724	34
27	5800	8146	5941	8044	6081	7939	6218	7832	6354	7722	33
28	5802	8145	5944	8042	6083	7937	6221	7830	6356	7720	32
29	5805	8143	5946	8040	6085	7935	6223	7828	6359	7718	31
30	5807	8141	5948	8039	6088	7934	6225	7826	6361	7716	30
31	5809	8139	5951	8037	6090	7932	6227	7824	6363	7714	29
32	5812	8138	5953	8035	6092	7930	6230	7822	6365	7713	28
33	5814	8136	5955	8033	6095	7928	6232	7821	6368	7711	27
34	5816	8134	5958	8032	6097	7926	6234	7819	6370	7709	26
35	5819	8133	5960	8030	6099	7925	6237	7817	6372	7707	25
36	5821	8131	5962	8028	6101	7923	6239	7815	6374	7705	24
37	5824	8129	5965	8026	6104	7921	6241	7813	6376	7703	23
38	5826	8128	5967	8025	6106	7919	6243	7812	6379	7701	22
39	5828	8126	5969	8023	6108	7918	6246	7810	6381	7700	21
40	5831	8124	5972	8021	6111	7916	6248	7808	6383	7698	20
41	5833	8123	5974	8020	6113	7914	6250	7806	6385	7696	19
42	5835	8121	5976	8018	6115	7912	6252	7804	6388	7694	18
43	5838	8119	5979	8016	6118	7910	6255	7802	6390	7692	17
44	5840	8117	5981	8014	6120	7909	6257	7801	6392	7690	16
45	5842	8116	5983	8013	6122	7907	6259	7799	6394	7688	15
46	5845	8114	5986	8011	6124	7905	6262	7797	6397	7687	14
47	5847	8112	5988	8009	6127	7903	6264	7795	6399	7685	13
48	5850	8111	5990	8007	6129	7902	6266	7793	6401	7683	12
49	5852	8109	5993	8006	6131	7900	6268	7792	6403	7681	11
50	5854	8107	5995	8004	6134	7898	6271	7790	6406	7679	10
51	5857	8106	5997	8002	6136	7896	6273	7788	6408	7677	9
52	5859	8104	6000	8000	6138	7894	6275	7786	6410	7675	8
53	5861	8102	6002	7999	6141	7893	6277	7784	6412	7674	7
54	5864	8100	6004	7997	6143	7891	6280	7782	6414	7672	6
55	5866	8099	6007	7995	6145	7889	6282	7781	6417	7670	5
56	5868	8097	6009	7993	6147	7887	6284	7779	6419	7668	4
57	5871	8095	6011	7992	6150	7885	6286	7777	6421	7666	3
58	5873	8094	6014	7990	6152	7884	6289	7775	6423	7664	2
59	5875	8092	6016	7988	6154	7882	6291	7773	6426	7662	1
60	5878	8090	6018	7986	6157	7880	6293	7771	6428	7660	0
	cos	sin	cos	sin	cos	sin	cos	sin	cos	sin	
′	54°		53°		52°		51°		50°		′

TABLE V. — NATURAL SINES AND COSINES

′	40° sin	cos	41° sin	cos	42° sin	cos	43° sin	cos	44° sin	cos	′
0	6428	7660	6561	7547	6691	7431	6820	7314	6947	7193	**60**
1	6430	7659	6563	7545	6693	7430	6822	7312	6949	7191	59
2	6432	7657	6565	7543	6696	7428	6824	7310	6951	7189	58
3	6435	7655	6567	7541	6698	7426	6826	7308	6953	7187	57
4	6437	7653	6569	7539	6700	7424	6828	7306	6955	7185	56
5	6439	7651	6572	7538	6702	7422	6831	7304	6957	7183	**55**
6	6441	7649	6574	7536	6704	7420	6833	7302	6959	7181	54
7	6443	7647	6576	7534	6706	7418	6835	7300	6961	7179	53
8	6446	7645	6578	7532	6709	7416	6837	7298	6963	7177	52
9	6448	7644	6580	7530	6711	7414	6839	7296	6965	7175	51
10	6450	7642	6583	7528	6713	7412	6841	7294	6967	7173	**50**
11	6452	7640	6585	7526	6715	7410	6843	7292	6970	7171	49
12	6455	7638	6587	7524	6717	7408	6845	7290	6972	7169	48
13	6457	7636	6589	7522	6719	7406	6848	7288	6974	7167	47
14	6459	7634	6591	7520	6722	7404	6850	7286	6976	7165	46
15	6461	7632	6593	7518	6724	7402	6852	7284	6978	7163	**45**
16	6463	7630	6596	7516	6726	7400	6854	7282	6980	7161	44
17	6466	7629	6598	7515	6728	7398	6856	7280	6982	7159	43
18	6468	7627	6600	7513	6730	7396	6858	7278	6984	7157	42
19	6470	7625	6602	7511	6732	7394	6860	7276	6986	7155	41
20	6472	7623	6604	7509	6734	7392	6862	7274	6988	7153	**40**
21	6475	7621	6607	7507	6737	7390	6865	7272	6990	7151	39
22	6477	7619	6609	7505	6739	7388	6867	7270	6992	7149	38
23	6479	7617	6611	7503	6741	7387	6869	7268	6995	7147	37
24	6481	7615	6613	7501	6743	7385	6871	7266	6997	7145	36
25	6483	7613	6615	7499	6745	7383	6873	7264	6999	7143	**35**
26	6486	7612	6617	7497	6747	7381	6875	7262	7001	7141	34
27	6488	7610	6620	7495	6749	7379	6877	7260	7003	7139	33
28	6490	7608	6622	7493	6752	7377	6879	7258	7005	7137	32
29	6492	7606	6624	7491	6754	7375	6881	7256	7007	7135	31
30	6494	7604	6626	7490	6756	7373	6884	7254	7009	7133	**30**
31	6497	7602	6628	7488	6758	7371	6886	7252	7011	7130	29
32	6499	7600	6631	7486	6760	7369	6888	7250	7013	7128	28
33	6501	7598	6633	7484	6762	7367	6890	7248	7015	7126	27
34	6503	7596	6635	7482	6764	7365	6892	7246	7017	7124	26
35	6506	7595	6637	7480	6767	7363	6894	7244	7019	7122	**25**
36	6508	7593	6639	7478	6769	7361	6896	7242	7022	7120	24
37	6510	7591	6641	7476	6771	7359	6898	7240	7024	7118	23
38	6512	7589	6644	7474	6773	7357	6900	7238	7026	7116	22
39	6514	7587	6646	7472	6775	7355	6903	7236	7028	7114	21
40	6517	7585	6648	7470	6777	7253	6905	7234	7030	7112	**20**
41	6519	7583	6650	7468	6779	7351	6907	7232	7032	7110	19
42	6521	7581	6652	7466	6782	7349	6909	7230	7034	7108	18
43	6523	7579	6654	7464	6784	7347	6911	7228	7036	7106	17
44	6525	7578	6657	7463	6786	7345	6913	7226	7038	7104	16
45	6528	7576	6659	7461	6788	7343	6915	7224	7040	7102	**15**
46	6530	7574	6661	7459	6790	7341	6917	7222	7042	7100	14
47	6532	7572	6663	7457	6792	7339	6919	7220	7044	7098	13
48	6534	7570	6665	7455	6794	7337	6921	7218	7046	7096	12
49	6536	7568	6667	7453	6797	7335	6924	7216	7048	7094	11
50	6539	7566	6670	7451	6799	7333	6926	7214	7050	7092	**10**
51	6541	7564	6672	7449	6801	7331	6928	7212	7053	7090	9
52	6543	7562	6674	7447	6803	7329	6930	7210	7055	7088	8
53	6545	7560	6676	7445	6805	7327	6932	7208	7057	7085	7
54	6547	7559	6678	7443	6807	7325	6934	7206	7059	7083	6
55	6550	7557	6680	7441	6809	7223	6936	7203	7061	7081	**5**
56	6552	7555	6683	7439	6811	7321	6938	7201	7063	7079	4
57	6554	7553	6685	7437	6814	7319	6940	7199	7065	7077	3
58	6556	7551	6687	7435	6816	7318	6942	7197	7067	7075	2
59	6558	7549	6689	7433	6818	7316	6944	7195	7069	7073	1
60	6561	7547	6691	7431	6820	7314	6947	7193	7071	7071	**0**
′	cos	sin	cos	sin	cos	sin	cos	sin	cos	sin	′
	49°		**48°**		**47°**		**46°**		**45°**		

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	0°		1°		2°		3°		4°		′
	tan	cot	tan	cot	tan	cot	tan	cot	tan	cot	
0	0000	Infinite	0175	57.2900	0349	28.6363	0524	19.0811	0699	14.3007	**60**
1	0003	3437.75	0177	56.3506	0352	28.3994	0527	18.9755	0702	14.2411	59
2	0006	1718.87	0180	55.4415	0355	28.1664	0530	18.8711	0705	14.1821	58
3	0009	1145.92	0183	54.5613	0358	27.9372	0533	18.7678	0708	14.1235	57
4	0012	859.436	0186	53.7086	0361	27.7117	0536	18.6656	0711	14.0655	56
5	0015	687.549	0189	52.8821	0364	27.4899	0539	18.5645	0714	14.0079	**55**
6	0017	572.957	0192	52.0807	0367	27.2715	0542	18.4645	0717	13.9507	54
7	0020	491.106	0195	51.3032	0370	27.0566	0544	18.3655	0720	13.8940	53
8	0023	429.718	0198	50.5485	0373	26.8450	0547	18.2677	0723	13.8378	52
9	0026	381.971	0201	49.8157	0375	26.6367	0550	18.1708	0726	13.7821	51
10	0029	343.774	0204	49.1039	0378	26.4316	0553	18.0750	0729	13.7267	**50**
11	0032	312.521	0207	48.4121	0381	26.2296	0556	17.9802	0731	13.6719	49
12	0035	286.478	0209	47.7395	0384	26.0307	0559	17.8863	0734	13.6174	48
13	0038	264.441	0212	47.0853	0387	25.8348	0562	17.7934	0737	13.5634	47
14	0041	245.552	0215	46.4489	0390	25.6418	0565	17.7015	0740	13.5098	46
15	0044	229.182	0218	45.8294	0393	25.4517	0568	17.6106	0743	13.4566	**45**
16	0047	214.858	0221	45.2261	0396	25.2644	0571	17.5205	0746	13.4039	44
17	0049	202.219	0224	44.6386	0399	25.0798	0574	17.4314	0749	13.3515	43
18	0052	190.984	0227	44.0661	0402	24.8978	0577	17.3432	0752	13.2996	42
19	0055	180.932	0230	43.5081	0405	24.7185	0580	17.2558	0755	13.2480	41
20	0058	171.885	0233	42.9641	0407	24.5418	0582	17.1693	0758	13.1969	**40**
21	0061	163.700	0236	42.4335	0410	24.3675	0585	17.0837	0761	13.1461	39
22	0064	156.259	0239	41.9158	0413	24.1957	0588	16.9990	0764	13.0958	38
23	0067	149.465	0241	41.4106	0416	24.0263	0591	16.9150	0767	13.0458	37
24	0070	143.237	0244	40.9174	0419	23.8593	0594	16.8319	0769	12.9962	36
25	0073	137.507	0247	40.4358	0422	23.6945	0597	16.7496	0772	12.9469	**35**
26	0076	132.219	0250	39.9655	0425	23.5321	0600	16.6681	0775	12.8981	34
27	0079	127.321	0253	39.5059	0428	23.3718	0603	16.5874	0778	12.8496	33
28	0081	122.774	0256	39.0568	0431	23.2137	0606	16.5075	0781	12.8014	32
29	0084	118.540	0259	38.6177	0434	23.0577	0609	16.4283	0784	12.7536	31
30	0087	114.589	0262	38.1885	0437	22.9038	0612	16.3499	0787	12.7062	**30**
31	0090	110.892	0265	37.7686	0440	22.7519	0615	16.2722	0790	12.6591	29
32	0093	107.426	0268	37.3579	0442	22.6020	0617	16.1952	0793	12.6124	28
33	0096	104.171	0271	36.9560	0445	22.4541	0620	16.1190	0796	12.5660	27
34	0099	101.107	0274	36.5627	0448	22.3081	0623	16.0435	0799	12.5199	26
35	0102	98.2179	0276	36.1776	0451	22.1640	0626	15.9687	0802	12.4742	**25**
36	0105	95.4895	0279	35.8006	0454	22.0217	0629	15.8945	0805	12.4288	24
37	0108	92.9085	0282	35.4313	0457	21.8813	0632	15.8211	0808	12.3838	23
38	0111	90.4633	0285	35.0695	0460	21.7426	0635	15.7483	0810	12.3390	22
39	0113	88.1436	0288	34.7151	0463	21.6056	0638	15.6762	0813	12.2946	21
40	0116	85.9398	0291	34.3678	0466	21.4704	0641	15.6048	0816	12.2505	**20**
41	0119	83.8435	0294	34.0273	0469	21.3369	0644	15.5340	0819	12.2067	19
42	0122	81.8470	0297	33.6935	0472	21.2049	0647	15.4638	0822	12.1632	18
43	0125	79.9434	0300	33.3662	0475	21.0747	0650	15.3943	0825	12.1201	17
44	0128	78.1263	0303	33.0452	0477	20.9460	0653	15.3254	0828	12.0772	16
45	0131	76.3900	0306	32.7303	0480	20.8188	0655	15.2571	0831	12.0346	**15**
46	0134	74.7292	0308	32.4213	0483	20.6932	0658	15.1893	0834	11.9923	14
47	0137	73.1390	0311	32.1181	0486	20.5691	0661	15.1222	0837	11.9504	13
48	0140	71.6151	0314	31.8205	0489	20.4465	0664	15.0557	0840	11.9087	12
49	0143	70.1533	0317	31.5284	0492	20.3253	0667	14.9898	0843	11.8673	11
50	0146	68.7501	0320	31.2416	0495	20.2056	0670	14.9244	0846	11.8262	**10**
51	0148	67.4019	0323	30.9599	0498	20.0872	0673	14.8596	0849	11.7853	9
52	0151	66.1055	0326	30.6833	0501	19.9702	0676	14.7954	0851	11.7448	8
53	0154	64.8580	0329	30.4116	0504	19.8546	0679	14.7317	0854	11.7045	7
54	0157	63.6567	0332	30.1446	0507	19.7403	0682	14.6685	0857	11.6645	6
55	0160	62.4992	0335	29.8823	0509	19.6273	0685	14.6059	0860	11.6248	**5**
56	0163	61.3829	0338	29.6245	0512	19.5156	0688	14.5438	0863	11.5853	4
57	0166	60.3058	0340	29.3711	0515	19.4051	0690	14.4823	0866	11.5461	3
58	0169	59.2659	0343	29.1220	0518	19.2959	0693	14.4212	0869	11.5072	2
59	0172	58.2612	0346	28.8771	0521	19.1879	0696	14.3607	0872	11.4685	1
60	0175	57.2900	0349	28.6363	0524	19.0811	0699	14.3007	0875	11.4301	**0**
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	89°		88°		87°		86°		85°		′

TABLE VI.— NATURAL TANGENTS AND COTANGENTS

′	5° tan	cot	6° tan	cot	7° tan	cot	8° tan	cot	9° tan	cot	′
0	0875	11.4301	1051	9.5144	1228	8.1443	1405	7.1154	1584	6.3138	60
1	0878	11.3919	1054	9.4878	1231	8.1248	1408	7.1004	1587	6.3019	59
2	0881	11.3540	1057	9.4614	1234	8.1054	1411	7.0855	1590	6.2901	58
3	0884	11.3163	1060	9.4352	1237	8.0860	1414	7.0706	1593	6.2783	57
4	0887	11.2789	1063	9.4090	1240	8.0667	1417	7.0558	1596	6.2666	56
5	0890	11.2417	1066	9.3831	1243	8.0476	1420	7.0410	1599	6.2549	55
6	0892	11.2048	1069	9.3572	1246	8.0285	1423	7.0264	1602	6.2432	54
7	0895	11.1681	1072	9.3315	1249	8.0095	1426	7.0117	1605	6.2316	53
8	0898	11.1316	1075	9.3060	1251	7.9906	1429	6.9972	1608	6.2200	52
9	0901	11.0954	1078	9.2806	1254	7.9718	1432	6.9827	1611	6.2085	51
10	0904	11.0594	1080	9.2553	1257	7.9530	1435	6.9682	1614	6.1970	50
11	0907	11.0237	1083	9.2302	1260	7.9344	1438	6.9538	1617	6.1856	49
12	0910	10.9882	1086	9.2052	1263	7.9158	1441	6.9395	1620	6.1742	48
13	0913	10.9529	1089	9.1803	1266	7.8973	1444	6.9252	1623	6.1628	47
14	0916	10.9178	1092	9.1555	1269	7.8789	1447	6.9110	1626	6.1515	46
15	0919	10.8829	1095	9.1309	1272	7.8606	1450	6.8969	1629	6.1402	45
16	0922	10.8483	1098	9.1065	1275	7.8424	1453	6.8828	1632	6.1290	44
17	0925	10.8139	1101	9.0821	1278	7.8243	1456	6.8687	1635	6.1178	43
18	0928	10.7797	1104	9.0579	1281	7.8062	1459	6.8548	1638	6.1066	42
19	0931	10.7457	1107	9.0338	1284	7.7883	1462	6.8408	1641	6.0955	41
20	0934	10.7119	1110	9.0098	1287	7.7704	1465	6.8269	1644	6.0844	40
21	0936	10.6783	1113	8.9860	1290	7.7525	1468	6.8131	1647	6.0734	39
22	0939	10.6450	1116	8.9623	1293	7.7348	1471	6.7994	1650	6.0624	38
23	0942	10.6118	1119	8.9387	1296	7.7171	1474	6.7856	1653	6.0514	37
24	0945	10.5789	1122	8.9152	1299	7.6996	1477	6.7720	1655	6.0405	36
25	0948	10.5462	1125	8.8919	1302	7.6821	1480	6.7584	1658	6.0296	35
26	0951	10.5136	1128	8.8686	1305	7.6647	1483	6.7448	1661	6.0188	34
27	0954	10.4813	1131	8.8455	1308	7.6478	1486	6.7313	1664	6.0080	33
28	0957	10.4491	1134	8.8225	1311	7.6301	1489	6.7179	1667	5.9972	32
29	0960	10.4172	1136	8.7996	1314	7.6129	1492	6.7045	1670	5.9865	31
30	0963	10.3854	1139	8.7769	1317	7.5958	1495	6.6912	1673	5.9758	30
31	0966	10.3538	1142	8.7542	1319	7.5787	1497	6.6779	1676	5.9651	29
32	0969	10.3224	1145	8.7317	1322	7.5618	1500	6.6646	1679	5.9545	28
33	0972	10.2913	1148	8.7093	1325	7.5449	1503	6.6514	1682	5.9439	27
34	0975	10.2602	1151	8.6870	1328	7.5281	1506	6.6383	1685	5.9333	26
35	0978	10.2294	1154	8.6648	1331	7.5113	1509	6.6252	1688	5.9228	25
36	0981	10.1988	1157	8.6427	1334	7.4947	1512	6.6122	1691	5.9124	24
37	0983	10.1683	1160	8.6208	1337	7.4781	1515	6.5992	1694	5.9019	23
38	0986	10.1381	1163	8.5989	1340	7.4615	1518	6.5863	1697	5.8915	22
39	0989	10.1080	1166	8.5772	1343	7.4451	1521	6.5734	1700	5.8811	21
40	0992	10.0780	1169	8.5555	1346	7.4287	1524	6.5606	1703	5.8708	20
41	0995	10.0483	1172	8.5340	1349	7.4124	1527	6.5478	1706	5.8605	19
42	0998	10.0187	1175	8.5126	1352	7.3962	1530	6.5350	1709	5.8502	18
43	1001	9.9893	1178	8.4913	1355	7.3800	1533	6.5223	1712	5.8400	17
44	1004	9.9601	1181	8.4701	1358	7.3639	1536	6.5097	1715	5.8298	16
45	1007	9.9310	1184	8.4490	1361	7.3479	1539	6.4971	1718	5.8197	15
46	1010	9.9021	1187	8.4280	1364	7.3319	1542	6.4846	1721	5.8095	14
47	1013	9.8734	1189	8.4071	1367	7.3160	1545	6.4721	1724	5.7994	13
48	1016	9.8448	1192	8.3863	1370	7.3002	1548	6.4596	1727	5.7894	12
49	1019	9.8164	1195	8.3656	1373	7.2844	1551	6.4472	1730	5.7794	11
50	1022	9.7882	1198	8.3450	1376	7.2687	1554	6.4348	1733	5.7694	10
51	1025	9.7601	1201	8.3245	1379	7.2531	1557	6.4225	1736	5.7594	9
52	1028	9.7322	1204	8.3041	1382	7.2375	1560	6.4103	1739	5.7495	8
53	1030	9.7044	1207	8.2838	1385	7.2220	1563	6.3980	1742	5.7396	7
54	1033	9.6768	1210	8.2636	1388	7.2066	1566	6.3859	1745	5.7297	6
55	1036	9.6499	1213	8.2434	1391	7.1912	1569	6.3737	1748	5.7199	5
56	1039	9.6220	1216	8.2234	1394	7.1759	1572	6.3617	1751	5.7101	4
57	1042	9.5949	1219	8.2035	1397	7.1607	1575	6.3496	1754	5.7004	3
58	1045	9.5679	1222	8.1837	1399	7.1455	1578	6.3376	1757	5.6906	2
59	1048	9.5411	1225	8.1640	1402	7.1304	1581	6.3257	1760	5.6809	1
60	1051	9.5144	1228	8.1443	1405	7.1154	1584	6.3138	1763	5.6713	0
′	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	′
	84°		**83°**		**82°**		**81°**		**80°**		

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	10°		11°		12°		13°		14°		′
	tan	cot	tan	cot	tan	cot	tan	cot	tan	cot	
0	1763	5.6713	1944	5.1446	2126	4.7046	2309	4.3315	2493	4.0108	60
1	1766	5.6617	1947	5.1366	2129	4.6979	2312	4.3257	2496	4.0058	59
2	1769	5.6521	1950	5.1286	2132	4.6912	2315	4.3200	2499	4.0009	58
3	1772	5.6425	1953	5.1207	2135	4.6845	2318	4.3143	2503	3.9959	57
4	1775	5.6330	1956	5.1128	2138	4.6779	2321	4.3086	2506	3.9910	56
5	1778	5.6234	1959	5.1049	2141	4.6712	2324	4.3029	2509	3.9861	55
6	1781	5.6140	1962	5.0970	2144	4.6646	2327	4.2972	2512	3.9812	54
7	1784	5.6045	1965	5.0892	2147	4.6580	2330	4.2916	2515	3.9763	53
8	1787	5.5951	1968	5.0814	2150	4.6514	2333	4.2859	2518	3.9714	52
9	1790	5.5857	1971	5.0736	2153	4.6448	2336	4.2803	2521	3.9665	51
10	1793	5.5764	1974	5.0658	2156	4.6382	2339	4.2747	2524	3.9617	50
11	1796	5.5671	1977	5.0581	2159	4.6317	2342	4.2691	2527	3.9568	49
12	1799	5.5578	1980	5.0504	2162	4.6252	2345	4.2635	2530	3.9520	48
13	1802	5.5485	1983	5.0427	2165	4.6187	2349	4.2580	2533	3.9471	47
14	1805	5.5393	1986	5.0350	2168	4.6122	2352	4.2524	2537	3.9423	46
15	1808	5.5301	1989	5.0273	2171	4.6057	2355	4.2468	2540	3.9375	45
16	1811	5.5209	1992	5.0197	2174	4.5993	2358	4.2413	2543	3.9327	44
17	1814	5.5118	1995	5.0121	2177	4.5928	2361	4.2358	2546	3.9279	43
18	1817	5.5026	1998	5.0045	2180	4.5864	2364	4.2303	2549	3.9232	42
19	1820	5.4936	2001	4.9969	2183	4.5800	2367	4.2248	2552	3.9184	41
20	1823	5.4845	2004	4.9894	2186	4.5736	2370	4.2193	2555	3.9136	40
21	1826	5.4755	2007	4.9819	2189	4.5673	2373	4.2139	2558	3.9089	39
22	1829	5.4665	2010	4.9744	2193	4.5609	2376	4.2084	2561	3.9042	38
23	1832	5.4575	2013	4.9669	2196	4.5546	2379	4.2030	2564	3.8995	37
24	1835	5.4486	2016	4.9594	2199	4.5483	2382	4.1976	2568	3.8947	36
25	1838	5.4397	2019	4.9520	2202	4.5420	2385	4.1922	2571	3.8900	35
26	1841	5.4308	2022	4.9446	2205	4.5357	2388	4.1868	2574	3.8854	34
27	1844	5.4219	2025	4.9372	2208	4.5294	2392	4.1814	2577	3.8807	33
28	1847	5.4131	2028	4.9298	2211	4.5232	2395	4.1760	2580	3.8760	32
29	1850	5.4043	2031	4.9225	2214	4.5169	2398	4.1706	2583	3.8714	31
30	1853	5.3955	2035	4.9152	2217	4.5107	2401	4.1653	2586	3.8667	30
31	1856	5.3868	2038	4.9078	2220	4.5045	2404	4.1600	2589	3.8621	29
32	1859	5.3781	2041	4.9006	2223	4.4983	2407	4.1547	2592	3.8575	28
33	1862	5.3694	2044	4.8933	2226	4.4922	2410	4.1493	2595	3.8528	27
34	1865	5.3607	2047	4.8860	2229	4.4860	2413	4.1441	2599	3.8482	26
35	1868	5.3521	2050	4.8788	2232	4.4799	2416	4.1388	2602	3.8436	25
36	1871	5.3435	2053	4.8716	2235	4.4737	2419	4.1335	2605	3.8391	24
37	1874	5.3349	2056	4.8644	2238	4.4676	2422	4.1282	2608	3.8345	23
38	1877	5.3263	2059	4.8573	2241	4.4615	2425	4.1230	2611	3.8299	22
39	1880	5.3178	2062	4.8501	2244	4.4555	2428	4.1178	2614	3.8254	21
40	1883	5.3093	2065	4.8430	2247	4.4494	2432	4.1126	2617	3.8208	20
41	1887	5.3008	2068	4.8359	2251	4.4434	2435	4.1074	2620	3.8163	19
42	1890	5.2924	2071	4.8288	2254	4.4374	2438	4.1022	2623	3.8118	18
43	1893	5.2839	2074	4.8218	2257	4.4313	2441	4.0970	2627	3.8073	17
44	1896	5.2755	2077	4.8147	2260	4.4253	2444	4.0918	2630	3.8028	16
45	1899	5.2672	2080	4.8077	2263	4.4194	2447	4.0867	2633	3.7983	15
46	1902	5.2588	2083	4.8007	2266	4.4134	2450	4.0815	2636	3.7938	14
47	1905	5.2505	2086	4.7937	2269	4.4075	2453	4.0764	2639	3.7893	13
48	1908	5.2422	2089	4.7867	2272	4.4015	2456	4.0713	2642	3.7848	12
49	1911	5.2339	2092	4.7798	2275	4.3956	2459	4.0662	2645	3.7804	11
50	1914	5.2257	2095	4.7729	2278	4.3897	2462	4.0611	2648	3.7760	10
51	1917	5.2174	2098	4.7659	2281	4.3838	2465	4.0560	2651	3.7715	9
52	1920	5.2092	2101	4.7591	2284	4.3779	2469	4.0509	2655	3.7671	8
53	1923	5.2011	2104	4.7522	2287	4.3721	2472	4.0459	2658	3.7627	7
54	1926	5.1929	2107	4.7453	2290	4.3662	2475	4.0408	2661	3.7583	6
55	1929	5.1848	2110	4.7385	2293	4.3604	2478	4.0358	2664	3.7539	5
56	1932	5.1767	2113	4.7317	2296	4.3546	2481	4.0308	2667	3.7495	4
57	1935	5.1686	2116	4.7249	2299	4.3488	2484	4.0257	2670	3.7451	3
58	1938	5.1606	2119	4.7181	2303	4.3430	2487	4.0207	2673	3.7408	2
59	1941	5.1526	2123	4.7114	2306	4.3372	2490	4.0158	2676	3.7364	1
60	1944	5.1446	2126	4.7046	2309	4.3315	2493	4.0108	2679	3.7321	0
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	79°		78°		77°		76°		75°		′

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TABLE VI. — NATURAL TANGENTS AND COTANGENTS

15°		16°		17°		18°		19°		'
tan	cot	tan	cot	tan	cot	tan	cot	tan	cot	
2679	3.7321	2867	3.4874	3057	3.2709	3249	3.0777	3443	2.9042	60
2683	3.7277	2871	3.4836	3060	3.2675	3252	3.0746	3447	2.9015	59
2686	3.7234	2874	3.4798	3064	3.2641	3256	3.0716	3450	2.8987	58
2689	3.7191	2877	3.4760	3067	3.2607	3259	3.0686	3453	2.8960	57
2692	3.7148	2880	3.4722	3070	3.2573	3262	3.0655	3456	2.8933	56
2695	3.7105	2883	3.4684	3073	3.2539	3265	3.0625	3460	2.8905	55
2698	3.7062	2886	3.4646	3076	3.2506	3269	3.0595	3463	2.8878	54
2701	3.7019	2890	3.4608	3080	3.2472	3272	3.0565	3466	2.8851	53
2704	3.6976	2893	3.4570	3083	3.2438	3275	3.0535	3469	2.8824	52
2708	3.6933	2896	3.4533	3086	3.2405	3278	3.0505	3473	2.8797	51
2711	3.6891	2899	3.4495	3089	3.2371	3281	3.0475	3476	2.8770	50
2714	3.6848	2902	3.4458	3092	3.2338	3285	3.0445	3479	2.8743	49
2717	3.6806	2905	3.4420	3096	3.2305	3288	3.0415	3482	2.8716	48
2720	3.6764	2908	3.4383	3099	3.2272	3291	3.0385	3486	2.8689	47
2723	3.6722	2912	3.4346	3102	3.2238	3294	3.0356	3489	2.8662	46
2726	3.6680	2915	3.4308	3105	3.2205	3298	3.0326	3492	2.8636	45
2729	3.6638	2918	3.4271	3108	3.2172	3301	3.0296	3495	2.8609	44
2733	3.6596	2921	3.4234	3111	3.2139	3304	3.0267	3499	2.8582	43
2736	3.6554	2924	3.4197	3115	3.2106	3307	3.0237	3502	2.8556	42
2739	3.6512	2927	3.4160	3118	3.2073	3310	3.0208	3505	2.8529	41
2742	3.6470	2931	3.4124	3121	3.2041	3314	3.0178	3508	2.8502	40
2745	3.6429	2934	3.4087	3124	3.2008	3317	3.0149	3512	2.8476	39
2748	3.6387	2937	3.4050	3127	3.1975	3320	3.0120	3515	2.8449	38
2751	3.6346	2940	3.4014	3131	3.1943	3323	3.0090	3518	2.8423	37
2754	3.6305	2943	3.3977	3134	3.1910	3327	3.0061	3522	2.8397	36
2758	3.6264	2946	3.3941	3137	3.1878	3330	3.0032	3525	2.8370	35
2761	3.6222	2949	3.3904	3140	3.1845	3333	3.0003	3528	2.8344	34
2764	3.6181	2953	3.3868	3143	3.1813	3336	2.9974	3531	2.8318	33
2767	3.6140	2956	3.3832	3147	3.1780	3339	2.9945	3535	2.8291	32
2770	3.6100	2959	3.3796	3150	3.1748	3343	2.9916	3538	2.8265	31
2773	3.6059	2962	3.3759	3153	3.1716	3346	2.9887	3541	2.8239	30
2776	3.6018	2965	3.3723	3156	3.1684	3349	2.9858	3544	2.8213	29
2780	3.5978	2968	3.3687	3159	3.1652	3352	2.9829	3548	2.8187	28
2783	3.5937	2972	3.3652	3163	3.1620	3356	2.9800	3551	2.8161	27
2786	3.5897	2975	3.3616	3166	3.1588	3359	2.9772	3554	2.8135	26
2789	3.5856	2978	3.3580	3169	3.1556	3362	2.9743	3558	2.8109	25
2792	3.5816	2981	3.3544	3172	3.1524	3365	2.9714	3561	2.8083	24
2795	3.5776	2984	3.3509	3175	3.1492	3369	2.9686	3564	2.8057	23
2798	3.5736	2987	3.3473	3179	3.1460	3372	2.9657	3567	2.8032	22
2801	3.5696	2991	3.3438	3182	3.1429	3375	2.9629	3571	2.8006	21
2805	3.5656	2994	3.3402	3185	3.1397	3378	2.9600	3574	2.7980	20
2808	3.5616	2997	3.3367	3188	3.1366	3382	2.9572	3577	2.7955	19
2811	3.5576	3000	3.3332	3191	3.1334	3385	2.9544	3581	2.7929	18
2814	3.5536	3003	3.3297	3195	3.1303	3388	2.9515	3584	2.7903	17
2817	3.5497	3006	3.3261	3198	3.1271	3391	2.9487	3587	2.7878	16
2820	3.5457	3010	3.3226	3201	3.1240	3395	2.9459	3590	2.7852	15
2823	3.5418	3013	3.3191	3204	3.1209	3398	2.9431	3594	2.7827	14
2827	3.5379	3016	3.3156	3207	3.1178	3401	2.9403	3597	2.7801	13
2830	3.5339	3019	3.3122	3211	3.1146	3404	2.9375	3600	2.7776	12
2833	3.5300	3022	3.3087	3214	3.1115	3408	2.9347	3604	2.7751	11
2836	3.5261	3026	3.3052	3217	3.1084	3411	2.9319	3607	2.7725	10
2839	3.5222	3029	3.3017	3220	3.1053	3414	2.9291	3610	2.7700	9
2842	3.5183	3032	3.2983	3223	3.1022	3417	2.9263	3613	2.7675	8
2845	3.5144	3035	3.2948	3227	3.0991	3421	2.9235	3617	2.7650	7
2849	3.5105	3038	3.2914	3230	3.0961	3424	2.9208	3620	2.7625	6
2852	3.5067	3041	3.2880	3233	3.0930	3427	2.9180	3623	2.7600	5
2855	3.5028	3045	3.2845	3236	3.0899	3430	2.9152	3627	2.7575	4
2858	3.4989	3048	3.2811	3240	3.0868	3434	2.9125	3630	2.7550	3
2861	3.4951	3051	3.2777	3243	3.0838	3437	2.9097	3633	2.7525	2
2864	3.4912	3054	3.2743	3246	3.0807	3440	2.9070	3636	2.7500	1
2867	3.4874	3057	3.2709	3249	3.0777	3443	2.9042	3640	2.7475	0
cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	

74°	73°	72°	71°	70°	'

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	20° tan	cot	21° tan	cot	22° tan	cot	23° tan	cot	24° tan	cot	′
0	3640	2.7475	3839	2.6051	4040	2.4751	4245	2.3559	4452	2.2460	60
1	3643	2.7450	3842	2.6028	4044	2.4730	4248	2.3539	4456	2.2443	59
2	3646	2.7425	3845	2.6006	4047	2.4709	4252	2.3520	4459	2.2425	58
3	3650	2.7400	3849	2.5983	4050	2.4689	4255	2.3501	4463	2.2408	57
4	3653	2.7376	3852	2.5961	4054	2.4668	4258	2.3483	4466	2.2390	56
5	3656	2.7351	3855	2.5938	4057	2.4648	4262	2.3464	4470	2.2373	55
6	3659	2.7326	3859	2.5916	4061	2.4627	4265	2.3445	4473	2.2355	54
7	3663	2.7302	3862	2.5893	4064	2.4606	4269	2.3426	4477	2.2338	53
8	3666	2.7277	3865	2.5871	4067	2.4586	4272	2.3407	4480	2.2320	52
9	3669	2.7253	3869	2.5848	4071	2.4566	4276	2.3388	4484	2.2303	51
10	3673	2.7228	3872	2.5826	4074	2.4545	4279	2.3369	4487	2.2286	50
11	3676	2.7204	3875	2.5804	4078	2.4525	4283	2.3351	4491	2.2268	49
12	3679	2.7179	3879	2.5782	4081	2.4504	4286	2.3332	4494	2.2251	48
13	3683	2.7155	3882	2.5759	4084	2.4484	4289	2.3313	4498	2.2234	47
14	3686	2.7130	3885	2.5737	4088	2.4464	4293	2.3294	4501	2.2216	46
15	3689	2.7106	3889	2.5715	4091	2.4443	4296	2.3276	4505	2.2199	45
16	3693	2.7082	3892	2.5693	4095	2.4423	4300	2.3257	4508	2.2182	44
17	3696	2.7058	3895	2.5671	4098	2.4403	4303	2.3238	4512	2.2165	43
18	3699	2.7034	3899	2.5649	4101	2.4383	4307	2.3220	4515	2.2148	42
19	3702	2.7009	3902	2.5627	4105	2.4362	4310	2.3201	4519	2.2130	41
20	3706	2.6985	3906	2.5605	4108	2.4342	4314	2.3183	4522	2.2113	40
21	3709	2.6961	3909	2.5583	4111	2.4322	4317	2.3164	4526	2.2096	39
22	3712	2.6937	3912	2.5561	4115	2.4302	4320	2.3146	4529	2.2079	38
23	3716	2.6913	3916	2.5539	4118	2.4282	4324	2.3127	4533	2.2062	37
24	3719	2.6889	3919	2.5517	4122	2.4262	4327	2.3109	4536	2.2045	36
25	3722	2.6865	3922	2.5495	4125	2.4242	4331	2.3090	4540	2.2028	35
26	3726	2.6841	3926	2.5473	4129	2.4222	4334	2.3072	4543	2.2011	34
27	3729	2.6818	3929	2.5452	4132	2.4202	4338	2.3053	4547	2.1994	33
28	3732	2.6794	3932	2.5430	4135	2.4182	4341	2.3035	4550	2.1977	32
29	3736	2.6770	3936	2.5408	4139	2.4162	4345	2.3017	4554	2.1960	31
30	3739	2.6746	3939	2.5386	4142	2.4142	4348	2.2998	4557	2.1943	30
31	3742	2.6723	3942	2.5365	4146	2.4122	4352	2.2980	4561	2.1926	29
32	3745	2.6699	3946	2.5343	4149	2.4102	4355	2.2962	4564	2.1909	28
33	3749	2.6675	3949	2.5322	4152	2.4083	4359	2.2944	4508	2.1892	27
34	3752	2.6652	3953	2.5300	4156	2.4063	4362	2.2925	4571	2.1876	26
35	3755	2.6628	3956	2.5279	4159	2.4043	4365	2.2907	4575	2.1859	25
36	3759	2.6605	3959	2.5257	4163	2.4023	4369	2.2889	4578	2.1842	24
37	3762	2.6581	3963	2.5236	4166	2.4004	4372	2.2871	4582	2.1825	23
38	3765	2.6558	3966	2.5214	4169	2.3984	4376	2.2853	4585	2.1808	22
39	3769	2.6534	3969	2.5193	4173	2.3964	4379	2.2835	4589	2.1792	21
40	3772	2.6511	3973	2.5172	4176	2.3945	4383	2.2817	4592	2.1775	20
41	3775	2.6488	3976	2.5150	4180	2.3925	4386	2.2799	4596	2.1758	19
42	3779	2.6464	3979	2.5129	4183	2.3906	4390	2.2781	4599	2.1742	18
43	3782	2.6441	3983	2.5108	4187	2.3886	4303	2.2763	4603	2.1725	17
44	3785	2.6418	3986	2.5086	4190	2.3867	4397	2.2745	4607	2.1708	16
45	3789	2.6395	3990	2.5065	4193	2.3847	4400	2.2727	4610	2.1692	15
46	3792	2.6371	3993	2.5044	4197	2.3828	4404	2.2709	4614	2.1675	14
47	3795	2.6348	3996	2.5023	4200	2.3808	4407	2.2691	4617	2.1659	13
48	3799	2.6325	4000	2.5002	4204	2.3789	4411	2.2673	4621	2.1642	12
49	3802	2.6302	4003	2.4981	4207	2.3770	4414	2.2655	4624	2.1625	11
50	3805	2.6279	4006	2.4960	4210	2.3750	4417	2.2637	4628	2.1609	10
51	3809	2.6256	4010	2.4939	4214	2.3731	4421	2.2620	4631	2.1592	9
52	3812	2.6233	4013	2.4918	4217	2.3712	4424	2.2602	4635	2.1576	8
53	3815	2.6210	4017	2.4897	4221	2.3693	4428	2.2584	4638	2.1560	7
54	3819	2.6187	4020	2.4876	4224	2.3673	4431	2.2566	4642	2.1543	6
55	3822	2.6165	4023	2.4855	4228	2.3654	4435	2.2549	4645	2.1527	5
56	3825	2.6142	4027	2.4834	4231	2.3635	4438	2.2531	4649	2.1510	4
57	3829	2.6119	4030	2.4813	4234	2.3616	4442	2.2513	4652	2.1494	3
58	3832	2.6096	4033	2.4792	4238	2.3597	4445	2.2496	4656	2.1478	2
59	3835	2.6074	4037	2.4772	4241	2.3578	4449	2.2478	4660	2.1461	1
60	3839	2.6051	4040	2.4751	4245	2.3559	4452	2.2460	4663	2.1445	0
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	69°		68°		67°		66°		65°		′

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	25° tan	25° cot	26° tan	26° cot	27° tan	27° cot	28° tan	28° cot	29° tan	29° cot	′
0	4663	2.1445	4877	2.0503	5095	1.9626	5317	1.8807	5543	1.8040	60
1	4667	2.1429	4881	2.0488	5099	1.9612	5321	1.8794	5547	1.8028	59
2	4670	2.1413	4885	2.0473	5103	1.9598	5325	1.8781	5551	1.8016	58
3	4674	2.1396	4888	2.0458	5106	1.9584	5328	1.8768	5555	1.8003	57
4	4677	2.1380	4892	2.0443	5110	1.9570	5332	1.8755	5558	1.7991	56
5	4681	2.1364	4895	2.0428	5114	1.9556	5336	1.8741	5562	1.7979	55
6	4684	2.1348	4899	2.0413	5117	1.9542	5340	1.8728	5566	1.7966	54
7	4688	2.1332	4903	2.0398	5121	1.9528	5343	1.8715	5570	1.7954	53
8	4691	2.1315	4906	2.0383	5125	1.9514	5347	1.8702	5574	1.7942	52
9	4695	2.1299	4910	2.0368	5128	1.9500	5351	1.8689	5577	1.7930	51
10	4699	2.1283	4913	2.0353	5132	1.9486	5354	1.8676	5581	1.7917	50
11	4702	2.1267	4917	2.0338	5136	1.9472	5358	1.8663	5585	1.7905	49
12	4706	2.1251	4921	2.0323	5139	1.9458	5362	1.8650	5589	1.7893	48
13	4709	2.1235	4924	2.0308	5143	1.9444	5366	1.8637	5593	1.7881	47
14	4713	2.1219	4928	2.0293	5147	1.9430	5369	1.8624	5596	1.7868	46
15	4716	2.1203	4931	2.0278	5150	1.9416	5373	1.8611	5600	1.7856	45
16	4720	2.1187	4935	2.0263	5154	1.9402	5377	1.8598	5604	1.7844	44
17	4723	2.1171	4939	2.0248	5158	1.9388	5381	1.8585	5608	1.7832	43
18	4727	2.1155	4942	2.0233	5161	1.9375	5384	1.8572	5612	1.7820	42
19	4731	2.1139	4946	2.0219	5165	1.9361	5388	1.8559	5616	1.7808	41
20	4734	2.1123	4950	2.0204	5169	1.9347	5392	1.8546	5619	1.7796	40
21	4738	2.1107	4953	2.0189	5172	1.9333	5396	1.8533	5623	1.7783	39
22	4741	2.1092	4957	2.0174	5176	1.9319	5399	1.8520	5627	1.7771	38
23	4745	2.1076	4960	2.0160	5180	1.9306	5403	1.8507	5631	1.7759	37
24	4748	2.1060	4964	2.0145	5184	1.9292	5407	1.8495	5635	1.7747	36
25	4752	2.1044	4968	2.0130	5187	1.9278	5411	1.8482	5639	1.7735	35
26	4755	2.1028	4971	2.0115	5191	1.9265	5415	1.8469	5642	1.7723	34
27	4759	2.1013	4975	2.0101	5195	1.9251	5418	1.8456	5646	1.7711	33
28	4763	2.0997	4979	2.0086	5198	1.9237	5422	1.8443	5650	1.7699	32
29	4766	2.0981	4982	2.0072	5202	1.9223	5426	1.8430	5654	1.7687	31
30	4770	2.0965	4986	2.0057	5206	1.9210	5430	1.8418	5658	1.7675	30
31	4773	2.0950	4989	2.0042	5209	1.9196	5433	1.8405	5662	1.7663	29
32	4777	2.0934	4993	2.0028	5213	1.9183	5437	1.8392	5665	1.7651	28
33	4780	2.0918	4997	2.0013	5217	1.9169	5441	1.8379	5669	1.7639	27
34	4784	2.0903	5000	1.9999	5220	1.9155	5445	1.8367	5673	1.7627	26
35	4788	2.0887	5004	1.9984	5224	1.9142	5448	1.8354	5677	1.7615	25
36	4791	2.0872	5008	1.9970	5228	1.9128	5452	1.8341	5681	1.7603	24
37	4795	2.0856	5011	1.9955	5232	1.9115	5456	1.8329	5685	1.7591	23
38	4798	2.0840	5015	1.9941	5235	1.9101	5460	1.8316	5688	1.7579	22
39	4802	2.0825	5019	1.9926	5239	1.9088	5464	1.8303	5692	1.7567	21
40	4806	2.0809	5022	1.9912	5243	1.9074	5467	1.8291	5696	1.7556	20
41	4809	2.0794	5026	1.9897	5246	1.9061	5471	1.8278	5700	1.7544	19
42	4813	2.0778	5029	1.9883	5250	1.9047	5475	1.8265	5704	1.7532	18
43	4816	2.0763	5033	1.9868	5254	1.9034	5479	1.8253	5708	1.7520	17
44	4820	2.0748	5037	1.9854	5258	1.9020	5482	1.8240	5712	1.7508	16
45	4823	2.0732	5040	1.9840	5261	1.9007	5486	1.8228	5715	1.7496	15
46	4827	2.0717	5044	1.9825	5265	1.8993	5490	1.8215	5719	1.7485	14
47	4831	2.0701	5048	1.9811	5269	1.8980	5494	1.8202	5723	1.7473	13
48	4834	2.0686	5051	1.9797	5272	1.8967	5498	1.8190	5727	1.7461	12
49	4838	2.0671	5055	1.9782	5276	1.8953	5501	1.8177	5731	1.7449	11
50	4841	2.0655	5059	1.9768	5280	1.8940	5505	1.8165	5735	1.7437	10
51	4845	2.0640	5062	1.9754	5284	1.8927	5509	1.8152	5739	1.7426	9
52	4849	2.0625	5066	1.9740	5287	1.8913	5513	1.8140	5743	1.7414	8
53	4852	2.0609	5070	1.9725	5291	1.8900	5517	1.8127	5746	1.7402	7
54	4856	2.0594	5073	1.9711	5295	1.8887	5520	1.8115	5750	1.7391	6
55	4859	2.0579	5077	1.9697	5298	1.8873	5524	1.8103	5754	1.7379	5
56	4863	2.0564	5081	1.9683	5302	1.8860	5528	1.8090	5758	1.7367	4
57	4867	2.0549	5085	1.9669	5306	1.8847	5532	1.8078	5762	1.7355	3
58	4870	2.0533	5088	1.9654	5310	1.8834	5535	1.8065	5766	1.7344	2
59	4874	2.0518	5092	1.9640	5313	1.8820	5539	1.8053	5770	1.7332	1
60	4877	2.0503	5095	1.9626	5317	1.8807	5543	1.8040	5774	1.7321	0
′	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	′
	64°		63°		62°		61°		60°		

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	30°		31°		32°		33°		34°		′
	tan	cot	tan	cot	tan	cot	tan	cot	tan	cot	
0	5774	1.7321	6009	1.6643	6249	1.6003	6494	1.5399	6745	1.4826	60
1	5777	1.7309	6013	1.6632	6253	1.5993	6498	1.5389	6749	1.4816	59
2	5781	1.7297	6017	1.6621	6257	1.5983	6502	1.5379	6754	1.4807	58
3	5785	1.7286	6020	1.6610	6261	1.5972	6506	1.5369	6758	1.4798	57
4	5789	1.7274	6024	1.6599	6265	1.5962	6511	1.5359	6762	1.4788	56
5	5793	1.7262	6028	1.6588	6269	1.5952	6515	1.5350	6766	1.4779	55
6	5797	1.7251	6032	1.6577	6273	1.5941	6519	1.5340	6771	1.4770	54
7	5801	1.7239	6036	1.6566	6277	1.5931	6523	1.5330	6775	1.4761	53
8	5805	1.7228	6040	1.6555	6281	1.5921	6527	1.5320	6779	1.4751	52
9	5808	1.7216	6044	1.6545	6285	1.5911	6531	1.5311	6783	1.4742	51
10	5812	1.7205	6048	1.6534	6289	1.5900	6536	1.5301	6787	1.4733	50
11	5816	1.7193	6052	1.6523	6293	1.5890	6540	1.5291	6792	1.4724	49
12	5820	1.7182	6056	1.6512	6297	1.5880	6544	1.5282	6796	1.4715	48
13	5824	1.7170	6060	1.6501	6301	1.5869	6548	1.5272	6800	1.4705	47
14	5828	1.7159	6064	1.6490	6305	1.5859	6552	1.5262	6805	1.4696	46
15	5832	1.7147	6068	1.6479	6310	1.5849	6556	1.5253	6809	1.4687	45
16	5836	1.7136	6072	1.6469	6314	1.5839	6560	1.5243	6813	1.4678	44
17	5840	1.7124	6076	1.6458	6318	1.5829	6565	1.5233	6817	1.4669	43
18	5844	1.7113	6080	1.6447	6322	1.5818	6569	1.5224	6822	1.4659	42
19	5847	1.7102	6084	1.6436	6326	1.5808	6573	1.5214	6826	1.4650	41
20	5851	1.7090	6088	1.6426	6330	1.5798	6577	1.5204	6830	1.4641	40
21	5855	1.7079	6092	1.6415	6334	1.5788	6581	1.5195	6834	1.4632	39
22	5859	1.7067	6096	1.6404	6338	1.5778	6585	1.5185	6839	1.4623	38
23	5863	1.7056	6100	1.6393	6342	1.5768	6590	1.5175	6843	1.4614	37
24	5867	1.7045	6104	1.6383	6346	1.5757	6594	1.5166	6847	1.4605	36
25	5871	1.7033	6108	1.6372	6350	1.5747	6598	1.5156	6851	1.4596	35
26	5875	1.7022	6112	1.6361	6354	1.5737	6602	1.5147	6856	1.4586	34
27	5879	1.7011	6116	1.6351	6358	1.5727	6606	1.5137	6860	1.4577	33
28	5883	1.6999	6120	1.6340	6363	1.5717	6610	1.5127	6864	1.4568	32
29	5887	1.6988	6124	1.6329	6367	1.5707	6615	1.5118	6869	1.4559	31
30	5890	1.6977	6128	1.6319	6371	1.5697	6619	1.5108	6873	1.4550	30
31	5894	1.6965	6132	1.6308	6375	1.5687	6623	1.5099	6877	1.4541	29
32	5898	1.6954	6136	1.6297	6379	1.5677	6627	1.5089	6881	1.4532	28
33	5902	1.6943	6140	1.6287	6383	1.5667	6631	1.5080	6886	1.4523	27
34	5906	1.6932	6144	1.6276	6387	1.5657	6636	1.5070	6890	1.4514	26
35	5910	1.6920	6148	1.6265	6391	1.5647	6640	1.5061	6894	1.4505	25
36	5914	1.6909	6152	1.6255	6395	1.5637	6644	1.5051	6899	1.4496	24
37	5918	1.6898	6156	1.6244	6399	1.5627	6648	1.5042	6903	1.4487	23
38	5922	1.6887	6160	1.6234	6403	1.5617	6652	1.5032	6907	1.4478	22
39	5926	1.6875	6164	1.6223	6408	1.5607	6657	1.5023	6911	1.4469	21
40	5930	1.6864	6168	1.6212	6412	1.5597	6661	1.5013	6916	1.4460	20
41	5934	1.6853	6172	1.6202	6416	1.5587	6665	1.5004	6920	1.4451	19
42	5938	1.6842	6176	1.6191	6420	1.5577	6669	1.4994	6924	1.4442	18
43	5942	1.6831	6180	1.6181	6424	1.5567	6673	1.4985	6929	1.4433	17
44	5945	1.6820	6184	1.6170	6428	1.5557	6678	1.4975	6933	1.4424	16
45	5949	1.6808	6188	1.6160	6432	1.5547	6682	1.4966	6937	1.4415	15
46	5953	1.6797	6192	1.6149	6436	1.5537	6686	1.4957	6942	1.4406	14
47	5957	1.6786	6196	1.6139	6440	1.5527	6690	1.4947	6946	1.4397	13
48	5961	1.6775	6200	1.6128	6445	1.5517	6694	1.4938	6950	1.4388	12
49	5965	1.6764	6204	1.6118	6449	1.5507	6699	1.4928	6954	1.4379	11
50	5969	1.6753	6208	1.6107	6453	1.5497	6703	1.4919	6959	1.4370	10
51	5973	1.6742	6212	1.6097	6457	1.5487	6707	1.4910	6963	1.4361	9
52	5977	1.6731	6216	1.6087	6461	1.5477	6711	1.4900	6967	1.4352	8
53	5981	1.6720	6220	1.6076	6465	1.5468	6716	1.4891	6972	1.4344	7
54	5985	1.6709	6224	1.6066	6469	1.5458	6720	1.4882	6976	1.4335	6
55	5989	1.6698	6228	1.6055	6473	1.5448	6724	1.4872	6980	1.4326	5
56	5993	1.6687	6233	1.6045	6478	1.5438	6728	1.4863	6985	1.4317	4
57	5997	1.6676	6237	1.6034	6482	1.5428	6732	1.4854	6989	1.4308	3
58	6001	1.6665	6241	1.6024	6486	1.5418	6737	1.4844	6993	1.4299	2
59	6005	1.6654	6245	1.6014	6490	1.5408	6741	1.4835	6998	1.4290	1
60	6009	1.6643	6249	1.6003	6494	1.5399	6745	1.4826	7002	1.4281	0
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	59°		58°		57°		56°		55°		′

TABLE VI — NATURAL TANGENTS AND COTANGENTS

′	35°		36°		37°		38°		39°		′
	tan	cot	tan	cot	tan	cot	tan	cot	tan	cot	
0	7002	1.4281	7265	1.3764	7536	1.3270	7813	1.2799	8098	1.2349	60
1	7006	1.4273	7270	1.3755	7540	1.3262	7818	1.2792	8102	1.2342	59
2	7009	1.4264	7274	1.3747	7545	1.3254	7822	1.2784	8107	1.2334	58
3	7013	1.4255	7279	1.3739	7549	1.3246	7827	1.2776	8112	1.2327	57
4	7017	1.4246	7283	1.3730	7554	1.3238	7832	1.2769	8117	1.2320	56
5	7024	1.4237	7288	1.3722	7558	1.3230	7836	1.2761	8122	1.2312	55
6	7028	1.4229	7292	1.3713	7563	1.3222	7841	1.2753	8127	1.2305	54
7	7032	1.4220	7297	1.3705	7568	1.3214	7846	1.2745	8132	1.2298	53
8	7037	1.4211	7301	1.3697	7572	1.3206	7850	1.2738	8136	1.2290	52
9	7041	1.4202	7306	1.3688	7577	1.3198	7855	1.2730	8141	1.2283	51
10	7046	1.4193	7310	1.3680	7581	1.3190	7860	1.2722	8146	1.2276	50
11	7050	1.4185	7314	1.3672	7585	1.3182	7865	1.2715	8151	1.2268	49
12	7054	1.4176	7319	1.3663	7590	1.3175	7869	1.2708	8156	1.2261	48
13	7059	1.4167	7323	1.3655	7595	1.3167	7874	1.2700	8161	1.2254	47
14	7063	1.4158	7328	1.3647	7600	1.3159	7879	1.2692	8165	1.2247	46
15	7067	1.4150	7332	1.3638	7604	1.3151	7883	1.2685	8170	1.2239	45
16	7072	1.4141	7337	1.3630	7609	1.3143	7888	1.2677	8175	1.2232	44
17	7076	1.4132	7341	1.3622	7613	1.3135	7893	1.2670	8180	1.2225	43
18	7080	1.4124	7346	1.3613	7618	1.3127	7898	1.2662	8185	1.2218	42
19	7085	1.4115	7350	1.3605	7623	1.3119	7902	1.2655	8190	1.2210	41
20	7089	1.4106	7355	1.3597	7627	1.3111	7907	1.2647	8195	1.2203	40
21	7094	1.4097	7359	1.3588	7632	1.3103	7912	1.2640	8200	1.2196	39
22	7098	1.4089	7364	1.3580	7636	1.3095	7916	1.2632	8204	1.2189	38
23	7102	1.4080	7368	1.3572	7641	1.3087	7921	1.2624	8209	1.2181	37
24	7107	1.4071	7373	1.3564	7646	1.3079	7926	1.2617	8214	1.2174	36
25	7111	1.4063	7377	1.3555	7650	1.3072	7931	1.2609	8219	1.2167	35
26	7115	1.4054	7382	1.3547	7655	1.3064	7935	1.2602	8224	1.2160	34
27	7120	1.4045	7386	1.3539	7659	1.3056	7940	1.2594	8229	1.2153	33
28	7124	1.4037	7391	1.3531	7664	1.3048	7945	1.2587	8234	1.2145	32
29	7129	1.4028	7395	1.3522	7669	1.3040	7950	1.2579	8239	1.2138	31
30	7133	1.4019	7400	1.3514	7673	1.3032	7954	1.2572	8243	1.2131	30
31	7137	1.4011	7404	1.3506	7678	1.3024	7959	1.2564	8248	1.2124	29
32	7142	1.4002	7409	1.3498	7683	1.3017	7964	1.2557	8253	1.2117	28
33	7146	1.3994	7413	1.3490	7687	1.3009	7969	1.2549	8258	1.2109	27
34	7151	1.3985	7418	1.3481	7692	1.3001	7973	1.2542	8263	1.2102	26
35	7155	1.3976	7422	1.3473	7696	1.2993	7978	1.2534	8268	1.2095	25
36	7159	1.3968	7427	1.3465	7701	1.2985	7983	1.2527	8273	1.2088	24
37	7164	1.3959	7431	1.3457	7705	1.2977	7988	1.2519	8278	1.2081	23
38	7168	1.3951	7436	1.3449	7710	1.2970	7992	1.2512	8283	1.2074	22
39	7173	1.3942	7440	1.3440	7715	1.2962	7997	1.2504	8287	1.2066	21
40	7177	1.3934	7445	1.3432	7720	1.2954	8002	1.2497	8292	1.2059	20
41	7181	1.3925	7449	1.3424	7724	1.2946	8007	1.2489	8297	1.2052	19
42	7186	1.3916	7454	1.3416	7729	1.2938	8012	1.2482	8302	1.2045	18
43	7190	1.3908	7459	1.3408	7734	1.2931	8016	1.2475	8307	1.2038	17
44	7195	1.3899	7463	1.3400	7738	1.2923	8021	1.2467	8312	1.2031	16
45	7199	1.3891	7468	1.3392	7743	1.2915	8026	1.2460	8317	1.2024	15
46	7203	1.3882	7472	1.3384	7747	1.2907	8031	1.2452	8322	1.2017	14
47	7208	1.3874	7476	1.3375	7752	1.2900	8035	1.2445	8327	1.2009	13
48	7212	1.3865	7481	1.3367	7757	1.2892	8040	1.2437	8332	1.2002	12
49	7217	1.3857	7485	1.3359	7761	1.2884	8045	1.2430	8337	1.1995	11
50	7221	1.3848	7490	1.3351	7766	1.2876	8050	1.2423	8342	1.1988	10
51	7226	1.3840	7495	1.3343	7771	1.2869	8055	1.2415	8346	1.1981	9
52	7230	1.3831	7499	1.3335	7775	1.2861	8059	1.2408	8351	1.1974	8
53	7234	1.3823	7504	1.3327	7780	1.2853	8064	1.2401	8356	1.1967	7
54	7239	1.3814	7508	1.3319	7785	1.2846	8069	1.2393	8361	1.1960	6
55	7243	1.3806	7513	1.3311	7789	1.2838	8074	1.2386	8366	1.1953	5
56	7248	1.3798	7517	1.3303	7794	1.2830	8079	1.2378	8371	1.1946	4
57	7252	1.3789	7522	1.3295	7799	1.2822	8083	1.2371	8376	1.1939	3
58	7257	1.3781	7526	1.3287	7803	1.2815	8088	1.2364	8381	1.1932	2
59	7261	1.3772	7531	1.3278	7808	1.2807	8093	1.2356	8386	1.1925	1
60	7265	1.3764	7536	1.3270	7813	1.2799	8098	1.2349	8391	1.1918	0
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	54°		53°		52°		51°		50°		′

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	40°		41°		42°		43°		44°		′
	tan	cot	tan	cot	tan	cot	tan	cot	tan	cot	
0	8391	1.1918	8693	1.1504	9004	1.1106	9325	1.0724	9657	1.0355	**60**
1	8396	1.1910	8698	1.1497	9009	1.1100	9331	1.0717	9663	1.0349	59
2	8401	1.1903	8703	1.1490	9015	1.1093	9336	1.0711	9668	1.0343	58
3	8406	1.1896	8708	1.1483	9020	1.1087	9341	1.0705	9674	1.0337	57
4	8411	1.1889	8713	1.1477	9025	1.1080	9347	1.0699	9679	1.0331	56
5	8416	1.1882	8718	1.1470	9030	1.1074	9352	1.0692	9685	1.0325	**55**
6	8421	1.1875	8724	1.1463	9036	1.1067	9358	1.0686	9691	1.0319	54
7	8426	1.1868	8729	1.1456	9041	1.1061	9363	1.0680	9696	1.0313	53
8	8431	1.1861	8734	1.1450	9046	1.1054	9369	1.0674	9702	1.0307	52
9	8436	1.1854	8739	1.1443	9052	1.1048	9374	1.0668	9708	1.0301	51
10	8441	1.1847	8744	1.1436	9057	1.1041	9380	1.0661	9713	1.0295	**50**
11	8446	1.1840	8749	1.1430	9062	1.1035	9385	1.0655	9719	1.0289	49
12	8451	1.1833	8754	1.1423	9007	1.1028	9391	1.0649	9725	1.0283	48
13	8456	1.1826	8759	1.1416	9073	1.1022	9396	1.0643	9730	1.0277	47
14	8461	1.1819	8765	1.1410	9078	1.1016	9402	1.0637	9736	1.0271	46
15	8466	1.1812	8770	1.1403	9083	1.1009	9407	1.0630	9742	1.0265	**45**
16	8471	1.1806	8775	1.1396	9039	1.1003	9413	1.0624	9747	1.0259	44
17	8476	1.1799	8780	1.1389	9094	1.0996	9418	1.0618	9753	1.0253	43
18	8481	1.1792	8785	1.1383	9099	1.0990	9424	1.0612	9759	1.0247	42
19	8486	1.1785	8790	1.1376	9105	1.0983	9429	1.0606	9764	1.0241	41
20	8491	1.1778	8796	1.1369	9110	1.0977	9435	1.0599	9770	1.0235	**40**
21	8496	1.1771	8801	1.1363	9115	1.0971	9440	1.0593	9776	1.0230	39
22	8501	1.1764	8806	1.1356	9121	1.0964	9446	1.0587	9781	1.0224	38
23	8506	1.1757	8811	1.1349	9126	1.0958	9451	1.0581	9787	1.0218	37
24	8511	1.1750	8816	1.1343	9131	1.0951	9457	1.0575	9793	1.0212	36
25	8516	1.1743	8821	1.1336	9137	1.0945	9462	1.0569	9798	1.0206	**35**
26	8521	1.1736	8827	1.1329	9142	1.0939	9468	1.0562	9804	1.0200	34
27	8526	1.1729	8832	1.1323	9147	1.0932	9473	1.0556	9810	1.0194	33
28	8531	1.1722	8837	1.1316	9153	1.0926	9479	1.0550	9816	1.0188	32
29	8536	1.1715	8842	1.1310	9158	1.0919	9484	1.0544	9821	1.0182	31
30	8541	1.1708	8847	1.1303	9163	1.0913	9490	1.0538	9827	1.0176	**30**
31	8546	1.1702	8852	1.1296	9169	1.0907	9495	1.0532	9833	1.0170	29
32	8551	1.1695	8858	1.1290	9174	1.0900	9501	1.0526	9838	1.0164	28
33	8556	1.1688	8863	1.1283	9179	1.0894	9506	1.0519	9844	1.0158	27
34	8561	1.1681	8868	1.1276	9185	1.0888	9512	1.0513	9850	1.0152	26
35	8566	1.1674	8873	1.1270	9190	1.0881	9517	1.0507	9856	1.0147	**25**
36	8571	1.1667	8878	1.1263	9195	1.0875	9523	1.0501	9861	1.0141	24
37	8576	1.1660	8884	1.1257	9201	1.0869	9528	1.0495	9867	1.0135	23
38	8581	1.1653	8889	1.1250	9206	1.0862	9534	1.0489	9873	1.0129	22
39	8586	1.1647	8894	1.1243	9212	1.0856	9540	1.0483	9879	1.0123	21
40	8591	1.1640	8899	1.1237	9217	1.0850	9545	1.0477	9884	1.0117	**20**
41	8596	1.1633	8904	1.1230	9222	1.0843	9551	1.0470	9890	1.0111	19
42	8601	1.1626	8910	1.1224	9228	1.0837	9556	1.0464	9896	1.0105	18
43	8606	1.1619	8915	1.1217	9233	1.0831	9562	1.0458	9902	1.0099	17
44	8611	1.1612	8920	1.1211	9239	1.0824	9567	1.0452	9907	1.0094	16
45	8617	1.1606	8925	1.1204	9244	1.0818	9573	1.0446	9913	1.0088	**15**
46	8622	1.1599	8931	1.1197	9249	1.0812	9578	1.0440	9919	1.0082	14
47	8627	1.1592	8936	1.1191	9255	1.0805	9584	1.0434	9925	1.0076	13
48	8632	1.1585	8941	1.1184	9260	1.0799	9590	1.0428	9930	1.0070	12
49	8637	1.1578	8946	1.1178	9266	1.0793	9595	1.0422	9936	1.0064	11
50	8642	1.1571	8952	1.1171	9271	1.0786	9601	1.0416	9942	1.0058	**10**
51	8647	1.1565	8957	1.1165	9276	1.0780	9606	1.0410	9948	1.0052	9
52	8652	1.1558	8962	1.1158	9282	1.0774	9612	1.0404	9954	1.0047	8
53	8657	1.1551	8967	1.1152	9287	1.0768	9618	1.0398	9959	1.0041	7
54	8662	1.1544	8972	1.1145	9293	1.0761	9623	1.0392	9965	1.0035	6
55	8667	1.1538	8978	1.1139	9298	1.0755	9629	1.0385	9971	1.0029	**5**
56	8672	1.1531	8983	1.1132	9303	1.0749	9634	1.0379	9977	1.0023	4
57	8678	1.1524	8988	1.1126	9309	1.0742	9640	1.0373	9983	1.0017	3
58	8683	1.1517	8994	1.1119	9314	1.0736	9646	1.0367	9988	1.0012	2
59	8688	1.1510	8999	1.1113	9320	1.0730	9651	1.0361	9994	1.0006	1
60	8693	1.1504	9004	1.1106	9325	1.0724	9657	1.0355	1.000	1.0000	**0**
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	49°		48°		47°		46°		45°		′

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	35°		36°		37°		38°		39°		′
	tan	cot	tan	cot	tan	cot	tan	cot	tan	cot	
0	7002	1.4281	7265	1.3764	7536	1.3270	7813	1.2799	8098	1.2349	**60**
1	7006	1.4273	7270	1.3755	7540	1.3262	7818	1.2792	8103	1.2342	59
2	7011	1.4264	7274	1.3747	7545	1.3254	7822	1.2784	8107	1.2334	58
3	7015	1.4255	7279	1.3739	7549	1.3246	7827	1.2776	8112	1.2327	57
4	7019	1.4246	7283	1.3730	7554	1.3238	7832	1.2769	8117	1.2320	56
5	7024	1.4237	7288	1.3722	7558	1.3230	7836	1.2761	8122	1.2312	**55**
6	7028	1.4229	7292	1.3713	7563	1.3222	7841	1.2753	8127	1.2305	54
7	7032	1.4220	7297	1.3705	7568	1.3214	7846	1.2746	8132	1.2298	53
8	7037	1.4211	7301	1.3697	7572	1.3206	7850	1.2738	8136	1.2290	52
9	7041	1.4202	7306	1.3688	7577	1.3198	7855	1.2731	8141	1.2283	51
10	7046	1.4193	7310	1.3680	7581	1.3190	7860	1.2723	8146	1.2276	**50**
11	7050	1.4185	7314	1.3672	7586	1.3182	7865	1.2715	8151	1.2268	49
12	7054	1.4176	7319	1.3663	7590	1.3175	7869	1.2708	8156	1.2261	48
13	7059	1.4167	7323	1.3655	7595	1.3167	7874	1.2700	8161	1.2254	47
14	7063	1.4158	7328	1.3647	7600	1.3159	7879	1.2693	8165	1.2247	46
15	7067	1.4150	7332	1.3638	7604	1.3151	7883	1.2685	8170	1.2239	**45**
16	7072	1.4141	7337	1.3630	7609	1.3143	7888	1.2677	8175	1.2232	44
17	7076	1.4132	7341	1.3622	7613	1.3135	7893	1.2670	8180	1.2225	43
18	7080	1.4124	7346	1.3613	7618	1.3127	7898	1.2662	8185	1.2218	42
19	7085	1.4115	7350	1.3605	7623	1.3119	7902	1.2655	8190	1.2210	41
20	7089	1.4106	7355	1.3597	7627	1.3111	7907	1.2647	8195	1.2203	**40**
21	7094	1.4097	7359	1.3588	7632	1.3103	7912	1.2640	8190	1.2196	39
22	7098	1.4089	7364	1.3580	7636	1.3095	7916	1.2632	8204	1.2189	38
23	7102	1.4080	7368	1.3572	7641	1.3087	7921	1.2624	8209	1.2181	37
24	7107	1.4071	7373	1.3564	7646	1.3079	7926	1.2617	8214	1.2174	36
25	7111	1.4063	7377	1.3555	7650	1.3072	7931	1.2609	8219	1.2167	**35**
26	7115	1.4054	7382	1.3547	7655	1.3064	7935	1.2602	8224	1.2160	34
27	7120	1.4045	7386	1.3539	7659	1.3056	7940	1.2594	8229	1.2153	33
28	7124	1.4037	7391	1.3531	7664	1.3048	7945	1.2587	8234	1.2145	32
29	7129	1.4028	7395	1.3522	7669	1.3040	7950	1.2579	8238	1.2138	31
30	7133	1.4019	7400	1.3514	7673	1.3032	7954	1.2572	8243	1.2131	**30**
31	7137	1.4011	7404	1.3506	7678	1.3024	7959	1.2564	8248	1.2124	29
32	7142	1.4002	7409	1.3498	7683	1.3017	7964	1.2557	8253	1.2117	28
33	7146	1.3994	7413	1.3490	7687	1.3009	7969	1.2549	8258	1.2109	27
34	7151	1.3985	7418	1.3481	7692	1.3001	7973	1.2542	8263	1.2102	26
35	7155	1.3976	7422	1.3473	7696	1.2993	7978	1.2534	8268	1.2095	**25**
36	7159	1.3968	7427	1.3465	7701	1.2985	7983	1.2527	8273	1.2088	24
37	7164	1.3959	7431	1.3457	7706	1.2977	7988	1.2519	8278	1.2081	23
38	7168	1.3951	7436	1.3449	7710	1.2970	7992	1.2512	8283	1.2074	22
39	7173	1.3942	7440	1.3440	7715	1.2962	7997	1.2504	8287	1.2066	21
40	7177	1.3934	7445	1.3432	7720	1.2954	8002	1.2497	8292	1.2059	**20**
41	7181	1.3925	7449	1.3424	7724	1.2946	8007	1.2489	8297	1.2052	19
42	7186	1.3916	7454	1.3416	7729	1.2938	8012	1.2482	8302	1.2045	18
43	7190	1.3908	7458	1.3408	7734	1.2931	8016	1.2475	8307	1.2038	17
44	7195	1.3899	7463	1.3400	7738	1.2923	8021	1.2467	8312	1.2031	16
45	7199	1.3891	7467	1.3392	7743	1.2915	8026	1.2460	8317	1.2024	**15**
46	7203	1.3882	7472	1.3384	7747	1.2907	8031	1.2452	8322	1.2017	14
47	7208	1.3874	7476	1.3375	7752	1.2900	8035	1.2445	8327	1.2009	13
48	7212	1.3865	7481	1.3367	7757	1.2892	8040	1.2437	8332	1.2002	12
49	7217	1.3857	7485	1.3359	7761	1.2884	8045	1.2430	8337	1.1995	11
50	7221	1.3848	7490	1.3351	7766	1.2876	8050	1.2423	8342	1.1988	**10**
51	7226	1.3840	7495	1.3343	7771	1.2869	8055	1.2415	8346	1.1981	9
52	7230	1.3831	7499	1.3335	7775	1.2861	8059	1.2408	8351	1.1974	8
53	7234	1.3823	7504	1.3327	7780	1.2853	8064	1.2401	8356	1.1967	7
54	7239	1.3814	7508	1.3319	7785	1.2846	8069	1.2393	8361	1.1960	6
55	7243	1.3806	7513	1.3311	7789	1.2838	8074	1.2386	8366	1.1953	**5**
56	7248	1.3798	7517	1.3303	7794	1.2830	8079	1.2378	8371	1.1946	4
57	7252	1.3789	7522	1.3295	7799	1.2822	8083	1.2371	8376	1.1939	3
58	7257	1.3781	7526	1.3287	7803	1.2815	8088	1.2364	8381	1.1932	2
59	7261	1.3772	7531	1.3278	7808	1.2807	8093	1.2356	8386	1.1925	1
60	7265	1.3764	7536	1.3270	7813	1.2799	8098	1.2349	8391	1.1918	**0**
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	54°		53°		52°		51°		50°		′

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	40°		41°		42°		43°		44°		′
	tan	cot	tan	cot	tan	cot	tan	cot	tan	cot	
0	8391	1.1918	8693	1.1504	9004	1.1106	9325	1.0724	9657	1.0355	60
1	8396	1.1910	8698	1.1497	9009	1.1100	9331	1.0717	9663	1.0349	59
2	8401	1.1903	8703	1.1490	9015	1.1093	9336	1.0711	9668	1.0343	58
3	8406	1.1896	8708	1.1483	9020	1.1087	9341	1.0705	9674	1.0337	57
4	8411	1.1889	8713	1.1477	9025	1.1080	9347	1.0699	9679	1.0331	56
5	8416	1.1882	8718	1.1470	9030	1.1074	9352	1.0692	9685	1.0325	55
6	8421	1.1875	8724	1.1463	9036	1.1067	9358	1.0686	9691	1.0319	54
7	8426	1.1868	8729	1.1456	9041	1.1061	9363	1.0680	9696	1.0313	53
8	8431	1.1861	8734	1.1450	9046	1.1054	9369	1.0674	9702	1.0307	52
9	8436	1.1854	8739	1.1443	9052	1.1048	9374	1.0668	9708	1.0301	51
10	8441	1.1847	8744	1.1436	9057	1.1041	9380	1.0661	9713	1.0295	50
11	8446	1.1840	8749	1.1430	9062	1.1035	9385	1.0655	9719	1.0289	49
12	8451	1.1833	8754	1.1423	9067	1.1028	9391	1.0649	9725	1.0283	48
13	8456	1.1826	8759	1.1416	9073	1.1022	9396	1.0643	9730	1.0277	47
14	8461	1.1819	8765	1.1410	9078	1.1016	9402	1.0637	9736	1.0271	46
15	8466	1.1812	8770	1.1403	9083	1.1009	9407	1.0630	9742	1.0265	45
16	8471	1.1806	8775	1.1396	9089	1.1003	9413	1.0624	9747	1.0259	44
17	8476	1.1799	8780	1.1389	9094	1.0996	9418	1.0618	9753	1.0253	43
18	8481	1.1792	8785	1.1383	9099	1.0990	9424	1.0612	9759	1.0247	42
19	8486	1.1785	8790	1.1376	9105	1.0983	9429	1.0606	9764	1.0241	41
20	8491	1.1778	8796	1.1369	9110	1.0977	9435	1.0599	9770	1.0235	40
21	8496	1.1771	8801	1.1363	9115	1.0971	9440	1.0593	9776	1.0230	39
22	8501	1.1764	8806	1.1356	9121	1.0964	9446	1.0587	9781	1.0224	38
23	8506	1.1757	8811	1.1349	9126	1.0958	9451	1.0581	9787	1.0218	37
24	8511	1.1750	8816	1.1343	9131	1.0951	9457	1.0575	9793	1.0212	36
25	8516	1.1743	8821	1.1336	9137	1.0945	9462	1.0569	9798	1.0206	35
26	8521	1.1736	8827	1.1329	9142	1.0939	9468	1.0562	9804	1.0200	34
27	8526	1.1729	8832	1.1323	9147	1.0932	9473	1.0556	9810	1.0194	33
28	8531	1.1722	8837	1.1316	9153	1.0926	9479	1.0550	9816	1.0188	32
29	8536	1.1715	8842	1.1310	9158	1.0919	9484	1.0544	9821	1.0182	31
30	8541	1.1708	8847	1.1303	9163	1.0913	9490	1.0538	9827	1.0176	30
31	8546	1.1702	8852	1.1296	9169	1.0907	9495	1.0532	9833	1.0170	29
32	8551	1.1695	8858	1.1290	9174	1.0900	9501	1.0526	9838	1.0164	28
33	8556	1.1688	8863	1.1283	9179	1.0894	9506	1.0519	9844	1.0158	27
34	8561	1.1681	8868	1.1276	9185	1.0888	9512	1.0513	9850	1.0152	26
35	8566	1.1674	8873	1.1270	9190	1.0881	9517	1.0507	9856	1.0147	25
36	8571	1.1667	8878	1.1263	9195	1.0875	9523	1.0501	9861	1.0141	24
37	8576	1.1660	8884	1.1257	9201	1.0869	9528	1.0495	9867	1.0135	23
38	8581	1.1653	8889	1.1250	9206	1.0862	9534	1.0489	9873	1.0129	22
39	8586	1.1647	8894	1.1243	9212	1.0856	9540	1.0483	9879	1.0123	21
40	8591	1.1640	8899	1.1237	9217	1.0850	9545	1.0477	9884	1.0117	20
41	8596	1.1633	8904	1.1230	9222	1.0843	9551	1.0470	9890	1.0111	19
42	8601	1.1626	8910	1.1224	9228	1.0837	9556	1.0464	9896	1.0105	18
43	8606	1.1619	8915	1.1217	9233	1.0831	9562	1.0458	9902	1.0099	17
44	8611	1.1612	8920	1.1211	9239	1.0824	9567	1.0452	9907	1.0094	16
45	8617	1.1606	8925	1.1204	9244	1.0818	9573	1.0446	9913	1.0088	15
46	8622	1.1599	8931	1.1197	9249	1.0812	9578	1.0440	9919	1.0082	14
47	8627	1.1592	8936	1.1191	9255	1.0805	9584	1.0434	9925	1.0076	13
48	8632	1.1585	8941	1.1184	9260	1.0799	9590	1.0428	9930	1.0070	12
49	8637	1.1578	8946	1.1178	9266	1.0793	9595	1.0422	9936	1.0064	11
50	8642	1.1571	8952	1.1171	9271	1.0786	9601	1.0416	9942	1.0058	10
51	8647	1.1565	8957	1.1165	9276	1.0780	9606	1.0410	9948	1.0052	9
52	8652	1.1558	8962	1.1158	9282	1.0774	9612	1.0404	9954	1.0047	8
53	8657	1.1551	8967	1.1152	9287	1.0768	9618	1.0398	9959	1.0041	7
54	8662	1.1544	8972	1.1145	9293	1.0761	9623	1.0392	9965	1.0035	6
55	8667	1.1538	8978	1.1139	9298	1.0755	9629	1.0385	9971	1.0029	5
56	8672	1.1531	8983	1.1132	9303	1.0749	9634	1.0379	9977	1.0023	4
57	8678	1.1524	8988	1.1126	9309	1.0742	9640	1.0373	9983	1.0017	3
58	8683	1.1517	8994	1.1119	9314	1.0736	9646	1.0367	9988	1.0012	2
59	8688	1.1510	8999	1.1113	9320	1.0730	9651	1.0361	9994	1.0006	1
60	8693	1.1504	9004	1.1106	9325	1.0724	9657	1.0355	1.000	1.0000	0
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	49°		48°		47°		46°		45°		′

TABLE VII. — MINUTES AS DECIMALS OF A DEGREE OR SECONDS AS DECIMALS OF A MINUTE

1	.017	16	.267	31	.517	46	.767
2	.033	17	.283	32	.533	47	.783
3	.050	18	.300	33	.550	48	.800
4	.067	19	.317	34	.567	49	.817
5	.083	20	.333	35	.583	50	.833
6	.100	21	.350	36	.600	51	.850
7	.117	22	.367	37	.617	52	.867
8	.133	23	.383	38	.633	53	.883
9	.150	24	.400	39	.650	54	.900
10	.167	25	.417	40	.667	55	.917
11	.183	26	.433	41	.683	56	.933
12	.200	27	.450	42	.700	57	.950
13	.217	28	.467	43	.717	58	.967
14	.233	29	.483	44	.733	59	.983
15	.250	30	.500	45	.750	60	1.000

TABLE VIII. — FORMULAS FOR THE SOLUTION OF TRIANGLES

GIVEN	SOUGHT	FORMULA
A, B, a	b, c	$b = \dfrac{a}{\sin A} \cdot \sin B, \quad c = \dfrac{a}{\sin A} \cdot \sin (A + B)$
A, a, b	B, c	$\sin B = \dfrac{\sin A}{a} \cdot b, \quad c = \dfrac{a}{\sin A} \cdot \sin C$
C, a, b	$A - B$	$\tan \frac{1}{2} (A - B) = \dfrac{a - b}{a + b} \cdot \tan \frac{1}{2} (A + B)$
a, b, c	A	If $s = \frac{1}{2} (a + b + c)$, $\sin \frac{1}{2} A = \sqrt{\dfrac{(s - b)(s - c)}{bc}}$
		$\cos \frac{1}{2} A = \sqrt{\dfrac{s(s - a)}{bc}}, \quad \tan \frac{1}{2} A = \sqrt{\dfrac{(s - b)(s - c)}{s(s - a)}}$
		$\sin A = \dfrac{2 \sqrt{s(s - a)(s - b)(s - c)}}{bc}$
	area	$\text{area} = \sqrt{s(s - a)(s - b)(s - c)}$
A, B, C, a	area	$\text{area} = \dfrac{a^2 \sin B \cdot \sin C}{2 \sin A}$
C, a, b	area	$\text{area} = \frac{1}{2} ab \sin C.$

TABLE IX. — TRIGONOMETRIC FORMULAS

1. $\sin^2 A + \cos^2 A = 1$.

2. $\sin (x \pm y) = \sin x \cos y \pm \cos x \sin y$.

3. $\cos (x \pm y) = \cos x \cos y \mp \sin x \sin y$.

4. $\tan (x \pm y) = \dfrac{\tan x \pm \tan y}{1 \mp \tan x \tan y}$.

5. $\cot (x \pm y) = \dfrac{\cot x \cot y \mp 1}{\cot y \pm \cot x}$.

6. $\sin 2x = 2 \sin x \cos x$.

7. $\cos 2x = \cos^2 x - \sin^2 x$.

8. $\tan 2x = \dfrac{2 \tan x}{1 - \tan^2 x}$.

9. $\cot 2x = \dfrac{\cot^2 x - 1}{2 \cot x}$.

10. $\sin \tfrac{1}{2} z = \pm \sqrt{\dfrac{1 - \cos z}{2}}$.

11. $\cos \tfrac{1}{2} z = \pm \sqrt{\dfrac{1 + \cos z}{2}}$.

12. $\tan \tfrac{1}{2} z = \pm \sqrt{\dfrac{1 - \cos z}{1 + \cos z}}$.

13. $\cot \tfrac{1}{2} z = \pm \sqrt{\dfrac{1 + \cos z}{1 - \cos z}}$.

14. $\sin A + \sin B = 2 \sin \tfrac{1}{2} (A + B) \cos \tfrac{1}{2} (A - B)$.

15. $\sin A - \sin B = 2 \cos \tfrac{1}{2} (A + B) \sin \tfrac{1}{2} (A - B)$.

16. $\cos A + \cos B = 2 \cos \tfrac{1}{2} (A + B) \cos \tfrac{1}{2} (A - B)$.

17. $\cos A - \cos B = - 2 \sin \tfrac{1}{2} (A + B) \sin \tfrac{1}{2} (A - B)$.

18. $\dfrac{\sin A + \sin B}{\sin A - \sin B} = \dfrac{\tan \tfrac{1}{2} (A + B)}{\tan \tfrac{1}{2} (A - B)}$.

19. $\dfrac{a}{b} = \dfrac{\sin A}{\sin B}$.

20. $a^2 = b^2 + c^2 - 2bc \cos A$.

21. $\dfrac{a - b}{a + b} = \dfrac{\tan \tfrac{1}{2} (A - B)}{\tan \tfrac{1}{2} (A + B)}$.

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	5° tan	cot	6° tan	cot	7° tan	cot	8° tan	cot	9° tan	cot	′
0	0875	11.4301	1051	9.5144	1228	8.1443	1405	7.1154	1584	6.3138	60
1	0878	11.3919	1054	9.4878	1231	8.1248	1408	7.1004	1587	6.3019	59
2	0881	11.3540	1057	9.4614	1234	8.1054	1411	7.0855	1590	6.2901	58
3	0884	11.3163	1060	9.4352	1237	8.0860	1414	7.0706	1593	6.2783	57
4	0887	11.2789	1063	9.4090	1240	8.0667	1417	7.0558	1596	6.2666	56
5	0890	11.2417	1066	9.3831	1243	8.0476	1420	7.0410	1599	6.2549	55
6	0892	11.2048	1069	9.3572	1246	8.0285	1423	7.0264	1602	6.2432	54
7	0895	11.1681	1072	9.3315	1249	8.0095	1426	7.0117	1605	6.2316	53
8	0898	11.1316	1075	9.3060	1251	7.9906	1429	6.9972	1608	6.2200	52
9	0901	11.0954	1078	9.2806	1254	7.9718	1432	6.9827	1611	6.2085	51
10	0904	11.0594	1080	9.2553	1257	7.9530	1435	6.9682	1614	6.1970	50
11	0907	11.0237	1083	9.2302	1260	7.9344	1438	6.9538	1617	6.1856	49
12	0910	10.9882	1086	9.2052	1263	7.9158	1441	6.9395	1620	6.1742	48
13	0913	10.9529	1089	9.1803	1266	7.8973	1444	6.9252	1623	6.1628	47
14	0916	10.9178	1092	9.1555	1269	7.8789	1447	6.9110	1626	6.1515	46
15	0919	10.8829	1095	9.1309	1272	7.8606	1450	6.8969	1629	6.1402	45
16	0922	10.8483	1098	9.1065	1275	7.8424	1453	6.8828	1632	6.1290	44
17	0925	10.8139	1101	9.0821	1278	7.8243	1456	6.8687	1635	6.1178	43
18	0928	10.7797	1104	9.0579	1281	7.8062	1459	6.8548	1638	6.1066	42
19	0931	10.7457	1107	9.0338	1284	7.7883	1462	6.8408	1641	6.0955	41
20	0934	10.7119	1110	9.0098	1287	7.7704	1465	6.8269	1644	6.0844	40
21	0936	10.6783	1113	8.9860	1290	7.7525	1468	6.8131	1647	6.0734	39
22	0939	10.6450	1116	8.9623	1293	7.7348	1471	6.7994	1650	6.0624	38
23	0942	10.6118	1119	8.9387	1296	7.7171	1474	6.7856	1653	6.0514	37
24	0945	10.5789	1122	8.9152	1299	7.6996	1477	6.7720	1655	6.0405	36
25	0948	10.5462	1125	8.8919	1302	7.6821	1480	6.7584	1658	6.0296	35
26	0951	10.5136	1128	8.8686	1305	7.6647	1483	6.7448	1661	6.0188	34
27	0954	10.4813	1131	8.8455	1308	7.6478	1486	6.7313	1664	6.0080	33
28	0957	10.4491	1134	8.8225	1311	7.6301	1489	6.7179	1667	5.9972	32
29	0960	10.4172	1136	8.7996	1314	7.6129	1492	6.7045	1670	5.9865	31
30	0963	10.3854	1139	8.7769	1317	7.5958	1495	6.6912	1673	5.9758	30
31	0966	10.3538	1142	8.7542	1319	7.5787	1497	6.6779	1676	5.9651	29
32	0969	10.3224	1145	8.7317	1322	7.5618	1500	6.6646	1679	5.9545	28
33	0972	10.2913	1148	8.7093	1325	7.5449	1503	6.6514	1682	5.9439	27
34	0975	10.2602	1151	8.6870	1328	7.5281	1506	6.6383	1685	5.9333	26
35	0978	10.2294	1154	8.6648	1331	7.5113	1509	6.6252	1688	5.9228	25
36	0981	10.1988	1157	8.6427	1334	7.4947	1512	6.6122	1691	5.9124	24
37	0983	10.1683	1160	8.6208	1337	7.4781	1515	6.5992	1694	5.9019	23
38	0986	10.1381	1163	8.5989	1340	7.4615	1518	6.5863	1697	5.8915	22
39	0989	10.1080	1166	8.5772	1343	7.4451	1521	6.5734	1700	5.8811	21
40	0992	10.0780	1169	8.5555	1346	7.4287	1524	6.5606	1703	5.8708	20
41	0995	10.0483	1172	8.5340	1349	7.4124	1527	6.5478	1706	5.8605	19
42	0998	10.0187	1175	8.5126	1352	7.3962	1530	6.5350	1709	5.8502	18
43	1001	9.9893	1178	8.4913	1355	7.3800	1533	6.5223	1712	5.8400	17
44	1004	9.9601	1181	8.4701	1358	7.3639	1536	6.5097	1715	5.8298	16
45	1007	9.9310	1184	8.4490	1361	7.3479	1539	6.4971	1718	5.8197	15
46	1010	9.9021	1187	8.4280	1364	7.3319	1542	6.4846	1721	5.8095	14
47	1013	9.8734	1189	8.4071	1367	7.3160	1545	6.4721	1724	5.7994	13
48	1016	9.8448	1192	8.3863	1370	7.3002	1548	6.4596	1727	5.7894	12
49	1019	9.8164	1195	8.3656	1373	7.2844	1551	6.4472	1730	5.7794	11
50	1022	9.7882	1198	8.3450	1376	7.2687	1554	6.4348	1733	5.7694	10
51	1025	9.7601	1201	8.3245	1379	7.2531	1557	6.4225	1736	5.7594	9
52	1028	9.7322	1204	8.3041	1382	7.2375	1560	6.4103	1739	5.7495	8
53	1030	9.7044	1207	8.2838	1385	7.2220	1563	6.3980	1742	5.7396	7
54	1033	9.6768	1210	8.2636	1388	7.2066	1566	6.3859	1745	5.7297	6
55	1036	9.6499	1213	8.2434	1391	7.1912	1569	6.3737	1748	5.7199	5
56	1039	9.6220	1216	8.2234	1394	7.1759	1572	6.3617	1751	5.7101	4
57	1042	9.5949	1219	8.2035	1397	7.1607	1575	6.3496	1754	5.7004	3
58	1045	9.5679	1222	8.1837	1399	7.1455	1578	6.3376	1757	5.6906	2
59	1048	9.5411	1225	8.1640	1402	7.1304	1581	6.3257	1760	5.6809	1
60	1051	9.5144	1228	8.1443	1405	7.1154	1584	6.3138	1763	5.6713	0
′	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	′
	84°		83°		82°		81°		80°		

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	10°		11°		12°		13°		14°		′
	tan	cot	tan	cot	tan	cot	tan	cot	tan	cot	
0	1763	5.6713	1944	5.1446	2126	4.7046	2309	4.3315	2493	4.0108	60
1	1766	5.6617	1947	5.1366	2129	4.6979	2312	4.3257	2496	4.0058	59
2	1769	5.6521	1950	5.1286	2132	4.6912	2315	4.3200	2499	4.0009	58
3	1772	5.6425	1953	5.1207	2135	4.6845	2318	4.3143	2503	3.9959	57
4	1775	5.6330	1956	5.1128	2138	4.6779	2321	4.3086	2506	3.9910	56
5	1778	5.6234	1959	5.1049	2141	4.6712	2324	4.3029	2509	3.9861	55
6	1781	5.6140	1962	5.0970	2144	4.6646	2327	4.2972	2512	3.9812	54
7	1784	5.6045	1965	5.0892	2147	4.6580	2330	4.2916	2515	3.9763	53
8	1787	5.5951	1968	5.0814	2150	4.6514	2333	4.2859	2518	3.9714	52
9	1790	5.5857	1971	5.0736	2153	4.6448	2336	4.2803	2521	3.9665	51
10	1793	5.5764	1974	5.0658	2156	4.6382	2339	4.2747	2524	3.9617	50
11	1796	5.5671	1977	5.0581	2159	4.6317	2342	4.2691	2527	3.9568	49
12	1799	5.5578	1980	5.0504	2162	4.6252	2345	4.2635	2530	3.9520	48
13	1802	5.5485	1983	5.0427	2165	4.6187	2349	4.2580	2533	3.9471	47
14	1805	5.5393	1986	5.0350	2168	4.6122	2352	4.2524	2537	3.9423	46
15	1808	5.5301	1989	5.0273	2171	4.6057	2355	4.2468	2540	3.9375	45
16	1811	5.5209	1992	5.0197	2174	4.5993	2358	4.2413	2543	3.9327	44
17	1814	5.5118	1995	5.0121	2177	4.5928	2361	4.2358	2546	3.9279	43
18	1817	5.5026	1998	5.0045	2180	4.5864	2364	4.2303	2549	3.9232	42
19	1820	5.4936	2001	4.9969	2183	4.5800	2367	4.2248	2552	3.9184	41
20	1823	5.4845	2004	4.9894	2186	4.5736	2370	4.2193	2555	3.9136	40
21	1826	5.4755	2007	4.9819	2189	4.5673	2373	4.2139	2558	3.9089	39
22	1829	5.4665	2010	4.9744	2193	4.5609	2376	4.2084	2561	3.9042	38
23	1832	5.4575	2013	4.9669	2196	4.5546	2379	4.2030	2564	3.8995	37
24	1835	5.4486	2016	4.9594	2199	4.5483	2382	4.1976	2568	3.8947	36
25	1838	5.4397	2019	4.9520	2202	4.5420	2385	4.1922	2571	3.8900	35
26	1841	5.4308	2022	4.9446	2205	4.5357	2388	4.1868	2574	3.8854	34
27	1844	5.4219	2025	4.9372	2208	4.5294	2392	4.1814	2577	3.8807	33
28	1847	5.4131	2028	4.9298	2211	4.5232	2395	4.1760	2580	3.8760	32
29	1850	5.4043	2031	4.9225	2214	4.5169	2398	4.1706	2583	3.8714	31
30	1853	5.3955	2035	4.9152	2217	4.5107	2401	4.1653	2586	3.8667	30
31	1856	5.3868	2038	4.9078	2220	4.5045	2404	4.1600	2589	3.8621	29
32	1859	5.3781	2041	4.9006	2223	4.4983	2407	4.1547	2592	3.8575	28
33	1862	5.3694	2044	4.8933	2226	4.4922	2410	4.1493	2595	3.8528	27
34	1865	5.3607	2047	4.8860	2229	4.4860	2413	4.1441	2599	3.8482	26
35	1868	5.3521	2050	4.8788	2232	4.4799	2416	4.1388	2602	3.8436	25
36	1871	5.3435	2053	4.8716	2235	4.4737	2419	4.1335	2605	3.8391	24
37	1874	5.3349	2056	4.8644	2238	4.4676	2422	4.1282	2608	3.8345	23
38	1877	5.3263	2059	4.8573	2241	4.4615	2425	4.1230	2611	3.8299	22
39	1880	5.3178	2062	4.8501	2244	4.4555	2428	4.1178	2614	3.8254	21
40	1883	5.3093	2065	4.8430	2247	4.4494	2432	4.1126	2617	3.8208	20
41	1887	5.3008	2068	4.8359	2251	4.4434	2435	4.1074	2620	3.8163	19
42	1890	5.2924	2071	4.8288	2254	4.4374	2438	4.1022	2623	3.8118	18
43	1893	5.2839	2074	4.8218	2257	4.4313	2441	4.0970	2627	3.8073	17
44	1896	5.2755	2077	4.8147	2260	4.4253	2444	4.0918	2630	3.8028	16
45	1899	5.2672	2080	4.8077	2263	4.4194	2447	4.0867	2633	3.7983	15
46	1902	5.2588	2083	4.8007	2266	4.4134	2450	4.0815	2636	3.7938	14
47	1905	5.2505	2086	4.7937	2269	4.4075	2453	4.0764	2639	3.7893	13
48	1908	5.2422	2089	4.7867	2272	4.4015	2456	4.0713	2642	3.7848	12
49	1911	5.2339	2092	4.7798	2275	4.3956	2459	4.0662	2645	3.7804	11
50	1914	5.2257	2095	4.7729	2278	4.3897	2462	4.0611	2648	3.7760	10
51	1917	5.2174	2098	4.7659	2281	4.3838	2465	4.0560	2651	3.7715	9
52	1920	5.2092	2101	4.7591	2284	4.3779	2469	4.0509	2655	3.7671	8
53	1923	5.2011	2104	4.7522	2287	4.3721	2472	4.0459	2658	3.7627	7
54	1926	5.1929	2107	4.7453	2290	4.3662	2475	4.0408	2661	3.7583	6
55	1929	5.1848	2110	4.7385	2293	4.3604	2478	4.0358	2664	3.7539	5
56	1932	5.1767	2113	4.7317	2296	4.3546	2481	4.0308	2667	3.7495	4
57	1935	5.1686	2116	4.7249	2299	4.3488	2484	4.0257	2670	3.7451	3
58	1938	5.1606	2119	4.7181	2303	4.3430	2487	4.0207	2673	3.7408	2
59	1941	5.1526	2123	4.7114	2306	4.3372	2490	4.0158	2676	3.7364	1
60	1944	5.1446	2126	4.7046	2309	4.3315	2493	4.0108	2679	3.7321	0
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	79°		78°		77°		76°		75°		′

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	15° tan	15° cot	16° tan	16° cot	17° tan	17° cot	18° tan	18° cot	19° tan	19° cot	′
0	2679	3.7321	2867	3.4874	3057	3.2709	3249	3.0777	3443	2.9042	**60**
1	2683	3.7277	2871	3.4836	3060	3.2675	3252	3.0746	3447	2.9015	59
2	2686	3.7234	2874	3.4798	3064	3.2641	3256	3.0716	3450	2.8987	58
3	2689	3.7191	2877	3.4760	3067	3.2607	3259	3.0686	3453	2.8960	57
4	2692	3.7148	2880	3.4722	3070	3.2573	3262	3.0655	3456	2.8933	56
5	2695	3.7105	2883	3.4684	3073	3.2539	3265	3.0625	3460	2.8905	**55**
6	2698	3.7062	2886	3.4646	3076	3.2506	3269	3.0595	3463	2.8878	54
7	2701	3.7019	2890	3.4608	3080	3.2472	3272	3.0565	3466	2.8851	53
8	2704	3.6976	2893	3.4570	3083	3.2438	3275	3.0535	3469	2.8824	52
9	2708	3.6933	2896	3.4533	3086	3.2405	3278	3.0505	3473	2.8797	51
10	2711	3.6891	2899	3.4495	3089	3.2371	3281	3.0475	3476	2.8770	**50**
11	2714	3.6848	2902	3.4458	3092	3.2338	3285	3.0445	3479	2.8743	49
12	2717	3.6806	2905	3.4420	3096	3.2305	3288	3.0415	3482	2.8716	48
13	2720	3.6764	2908	3.4383	3099	3.2272	3291	3.0385	3486	2.8689	47
14	2723	3.6722	2912	3.4346	3102	3.2238	3294	3.0356	3489	2.8662	46
15	2726	3.6680	2915	3.4308	3105	3.2205	3298	3.0326	3492	2.8636	**45**
16	2729	3.6638	2918	3.4271	3108	3.2172	3301	3.0296	3495	2.8609	44
17	2733	3.6596	2921	3.4234	3111	3.2139	3304	3.0267	3499	2.8582	43
18	2736	3.6554	2924	3.4197	3115	3.2106	3307	3.0237	3502	2.8556	42
19	2739	3.6512	2927	3.4160	3118	3.2073	3310	3.0208	3505	2.8529	41
20	2742	3.6470	2931	3.4124	3121	3.2041	3314	3.0178	3508	2.8502	**40**
21	2745	3.6429	2934	3.4087	3124	3.2008	3317	3.0149	3512	2.8476	39
22	2748	3.6387	2937	3.4050	3127	3.1975	3320	3.0120	3515	2.8449	38
23	2751	3.6346	2940	3.4014	3131	3.1943	3323	3.0090	3518	2.8423	37
24	2754	3.6305	2943	3.3977	3134	3.1910	3327	3.0061	3522	2.8397	36
25	2758	3.6264	2946	3.3941	3137	3.1878	3330	3.0032	3525	2.8370	**35**
26	2761	3.6222	2949	3.3904	3140	3.1845	3333	3.0003	3528	2.8344	34
27	2764	3.6181	2953	3.3868	3143	3.1813	3336	2.9974	3531	2.8318	33
28	2767	3.6140	2956	3.3832	3147	3.1780	3339	2.9945	3535	2.8291	32
29	2770	3.6100	2959	3.3796	3150	3.1748	3343	2.9916	3538	2.8265	31
30	2773	3.6059	2962	3.3759	3153	3.1716	3346	2.9887	3541	2.8239	**30**
31	2776	3.6018	2965	3.3723	3156	3.1684	3349	2.9858	3544	2.8213	29
32	2780	3.5978	2968	3.3687	3159	3.1652	3352	2.9829	3548	2.8187	28
33	2783	3.5937	2972	3.3652	3163	3.1620	3356	2.9800	3551	2.8161	27
34	2786	3.5897	2975	3.3616	3166	3.1588	3359	2.9772	3554	2.8135	26
35	2789	3.5856	2978	3.3580	3169	3.1556	3362	2.9743	3558	2.8109	**25**
36	2792	3.5816	2981	3.3544	3172	3.1524	3365	2.9714	3561	2.8083	24
37	2795	3.5776	2984	3.3509	3175	3.1492	3369	2.9686	3564	2.8057	23
38	2798	3.5736	2987	3.3473	3179	3.1460	3372	2.9657	3567	2.8032	22
39	2801	3.5696	2991	3.3438	3182	3.1429	3375	2.9629	3571	2.8006	21
40	2805	3.5656	2994	3.3402	3185	3.1397	3378	2.9600	3574	2.7980	**20**
41	2808	3.5616	2997	3.3367	3188	3.1366	3382	2.9572	3577	2.7955	19
42	2811	3.5576	3000	3.3332	3191	3.1334	3385	2.9544	3581	2.7929	18
43	2814	3.5536	3003	3.3297	3195	3.1303	3388	2.9515	3584	2.7903	17
44	2817	3.5497	3006	3.3261	3198	3.1271	3391	2.9487	3587	2.7878	16
45	2820	3.5457	3010	3.3226	3201	3.1240	3395	2.9459	3590	2.7852	**15**
46	2823	3.5418	3013	3.3191	3204	3.1209	3398	2.9431	3594	2.7827	14
47	2827	3.5379	3016	3.3156	3207	3.1178	3401	2.9403	3597	2.7801	13
48	2830	3.5339	3019	3.3122	3211	3.1146	3404	2.9375	3600	2.7776	12
49	2833	3.5300	3022	3.3087	3214	3.1115	3408	2.9347	3604	2.7751	11
50	2836	3.5261	3026	3.3052	3217	3.1084	3411	2.9319	3607	2.7725	**10**
51	2839	3.5222	3029	3.3017	3220	3.1053	3414	2.9291	3610	2.7700	9
52	2842	3.5183	3032	3.2983	3223	3.1022	3417	2.9263	3613	2.7675	8
53	2845	3.5144	3035	3.2948	3227	3.0991	3421	2.9235	3617	2.7650	7
54	2849	3.5105	3038	3.2914	3230	3.0961	3424	2.9208	3620	2.7625	6
55	2852	3.5067	3041	3.2880	3233	3.0930	3427	2.9180	3623	2.7600	**5**
56	2855	3.5028	3045	3.2845	3236	3.0899	3430	2.9152	3627	2.7575	4
57	2858	3.4989	3048	3.2811	3240	3.0868	3434	2.9125	3630	2.7550	3
58	2861	3.4951	3051	3.2777	3243	3.0838	3437	2.9097	3633	2.7525	2
59	2864	3.4912	3054	3.2743	3246	3.0807	3440	2.9070	3636	2.7500	1
60	2867	3.4874	3057	3.2709	3249	3.0777	3443	2.9042	3640	2.7475	**0**
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	74°		73°		72°		71°		70°		′

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	20°		21°		22°		23°		24°		′
	tan	cot	tan	cot	tan	cot	tan	cot	tan	cot	
0	3640	2.7475	3839	2.6051	4040	2.4751	4245	2.3559	4452	2.2460	60
1	3643	2.7450	3842	2.6028	4044	2.4730	4248	2.3539	4456	2.2443	59
2	3646	2.7425	3845	2.6006	4047	2.4709	4252	2.3520	4459	2.2425	58
3	3650	2.7400	3849	2.5983	4050	2.4689	4255	2.3501	4463	2.2408	57
4	3653	2.7376	3852	2.5961	4054	2.4668	4258	2.3483	4466	2.2390	56
5	3656	2.7351	3855	2.5938	4057	2.4648	4262	2.3464	4470	2.2373	55
6	3659	2.7326	3859	2.5916	4061	2.4627	4265	2.3445	4473	2.2355	54
7	3663	2.7302	3862	2.5893	4064	2.4606	4269	2.3426	4477	2.2338	53
8	3666	2.7277	3865	2.5871	4067	2.4586	4272	2.3407	4480	2.2320	52
9	3669	2.7253	3869	2.5848	4071	2.4566	4276	2.3388	4484	2.2303	51
10	3673	2.7228	3872	2.5826	4074	2.4545	4279	2.3369	4487	2.2286	50
11	3676	2.7204	3875	2.5804	4078	2.4525	4283	2.3351	4491	2.2268	49
12	3679	2.7179	3879	2.5782	4081	2.4504	4286	2.3332	4494	2.2251	48
13	3683	2.7155	3882	2.5759	4084	2.4484	4289	2.3313	4498	2.2234	47
14	3686	2.7130	3885	2.5737	4088	2.4464	4293	2.3294	4501	2.2216	46
15	3689	2.7106	3889	2.5715	4091	2.4443	4296	2.3276	4505	2.2199	45
16	3693	2.7082	3892	2.5693	4095	2.4423	4300	2.3257	4508	2.2182	44
17	3696	2.7058	3895	2.5671	4098	2.4403	4303	2.3238	4512	2.2165	43
18	3699	2.7034	3899	2.5649	4101	2.4383	4307	2.3220	4515	2.2148	42
19	3702	2.7009	3902	2.5627	4105	2.4362	4310	2.3201	4519	2.2130	41
20	3706	2.6985	3906	2.5605	4108	2.4342	4314	2.3183	4522	2.2113	40
21	3709	2.6961	3909	2.5583	4111	2.4322	4317	2.3164	4526	2.2096	39
22	3712	2.6937	3912	2.5561	4115	2.4302	4320	2.3146	4529	2.2079	38
23	3716	2.6913	3916	2.5539	4118	2.4282	4324	2.3127	4533	2.2062	37
24	3719	2.6889	3919	2.5517	4122	2.4262	4327	2.3109	4536	2.2045	36
25	3722	2.6865	3922	2.5495	4125	2.4242	4331	2.3090	4540	2.2028	35
26	3726	2.6841	3926	2.5473	4129	2.4222	4334	2.3072	4543	2.2011	34
27	3729	2.6818	3929	2.5452	4132	2.4202	4338	2.3053	4547	2.1994	33
28	3732	2.6794	3932	2.5430	4135	2.4182	4341	2.3035	4550	2.1977	32
29	3736	2.6770	3936	2.5408	4139	2.4162	4345	2.3017	4554	2.1960	31
30	3739	2.6746	3939	2.5386	4142	2.4142	4348	2.2998	4557	2.1943	30
31	3742	2.6723	3942	2.5365	4146	2.4122	4352	2.2980	4561	2.1926	29
32	3745	2.6699	3946	2.5343	4149	2.4102	4355	2.2962	4564	2.1909	28
33	3749	2.6675	3949	2.5322	4152	2.4083	4359	2.2944	4568	2.1892	27
34	3752	2.6652	3953	2.5300	4156	2.4063	4362	2.2925	4571	2.1876	26
35	3755	2.6628	3956	2.5279	4159	2.4043	4365	2.2907	4575	2.1859	25
36	3759	2.6605	3959	2.5257	4163	2.4023	4369	2.2889	4578	2.1842	24
37	3762	2.6581	3963	2.5236	4166	2.4004	4372	2.2871	4582	2.1825	23
38	3765	2.6558	3966	2.5214	4169	2.3984	4376	2.2853	4585	2.1808	22
39	3769	2.6534	3969	2.5193	4173	2.3964	4379	2.2835	4589	2.1792	21
40	3772	2.6511	3973	2.5172	4176	2.3945	4383	2.2817	4592	2.1775	20
41	3775	2.6488	3976	2.5150	4180	2.3925	4386	2.2799	4596	2.1758	19
42	3779	2.6464	3979	2.5129	4183	2.3906	4390	2.2781	4599	2.1742	18
43	3782	2.6441	3983	2.5108	4187	2.3886	4393	2.2763	4603	2.1725	17
44	3785	2.6418	3986	2.5086	4190	2.3867	4397	2.2745	4607	2.1708	16
45	3789	2.6395	3990	2.5065	4193	2.3847	4400	2.2727	4610	2.1692	15
46	3792	2.6371	3993	2.5044	4197	2.3828	4404	2.2709	4614	2.1675	14
47	3795	2.6348	3996	2.5023	4200	2.3808	4407	2.2691	4617	2.1659	13
48	3799	2.6325	4000	2.5002	4204	2.3789	4411	2.2673	4621	2.1642	12
49	3802	2.6302	4003	2.4981	4207	2.3770	4414	2.2655	4624	2.1625	11
50	3805	2.6279	4007	2.4960	4210	2.3750	4417	2.2637	4628	2.1609	10
51	3809	2.6256	4010	2.4939	4214	2.3731	4421	2.2620	4631	2.1592	9
52	3812	2.6233	4013	2.4918	4217	2.3712	4424	2.2602	4635	2.1576	8
53	3815	2.6210	4017	2.4897	4221	2.3693	4428	2.2584	4638	2.1560	7
54	3819	2.6187	4020	2.4876	4224	2.3673	4431	2.2566	4642	2.1543	6
55	3822	2.6165	4023	2.4855	4228	2.3654	4435	2.2549	4645	2.1527	5
56	3825	2.6142	4027	2.4834	4231	2.3635	4438	2.2531	4649	2.1510	4
57	3829	2.6119	4030	2.4813	4234	2.3616	4442	2.2513	4652	2.1494	3
58	3832	2.6096	4033	2.4792	4238	2.3597	4445	2.2496	4656	2.1478	2
59	3835	2.6074	4037	2.4772	4241	2.3578	4449	2.2478	4660	2.1461	1
60	3839	2.6051	4040	2.4751	4245	2.3559	4452	2.2460	4663	2.1445	0
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	25°		26°		27°		28°		29°		′
	tan	cot	tan	cot	tan	cot	tan	cot	tan	cot	
0	4663	2.1445	4877	2.0503	5095	1.9626	5317	1.8807	5543	1.8040	60
1	4667	2.1429	4881	2.0488	5099	1.9612	5321	1.8794	5547	1.8028	59
2	4670	2.1413	4885	2.0473	5103	1.9598	5325	1.8781	5551	1.8016	58
3	4674	2.1396	4888	2.0458	5106	1.9584	5328	1.8768	5555	1.8003	57
4	4677	2.1380	4892	2.0443	5110	1.9570	5332	1.8755	5558	1.7991	56
5	4681	2.1364	4895	2.0428	5114	1.9556	5336	1.8741	5562	1.7979	55
6	4684	2.1348	4899	2.0413	5117	1.9542	5340	1.8728	5566	1.7966	54
7	4688	2.1332	4903	2.0398	5121	1.9528	5343	1.8715	5570	1.7954	53
8	4691	2.1315	4906	2.0383	5125	1.9514	5347	1.8702	5574	1.7942	52
9	4695	2.1299	4910	2.0368	5128	1.9500	5351	1.8689	5577	1.7930	51
10	4699	2.1283	4913	2.0353	5132	1.9486	5354	1.8676	5581	1.7917	50
11	4702	2.1267	4917	2.0338	5136	1.9472	5358	1.8663	5585	1.7905	49
12	4706	2.1251	4921	2.0323	5139	1.9458	5362	1.8650	5589	1.7893	48
13	4709	2.1235	4924	2.0308	5143	1.9444	5366	1.8637	5593	1.7881	47
14	4713	2.1219	4928	2.0293	5147	1.9430	5369	1.8624	5596	1.7868	46
15	4716	2.1203	4931	2.0278	5150	1.9416	5373	1.8611	5600	1.7856	45
16	4720	2.1187	4935	2.0263	5154	1.9402	5377	1.8598	5604	1.7844	44
17	4723	2.1171	4939	2.0248	5158	1.9388	5381	1.8585	5608	1.7832	43
18	4727	2.1155	4942	2.0233	5161	1.9375	5384	1.8572	5612	1.7820	42
19	4731	2.1139	4946	2.0219	5165	1.9361	5388	1.8559	5616	1.7808	41
20	4734	2.1123	4950	2.0204	5169	1.9347	5392	1.8546	5619	1.7796	40
21	4738	2.1107	4953	2.0189	5172	1.9333	5396	1.8533	5623	1.7783	39
22	4741	2.1092	4957	2.0174	5176	1.9319	5399	1.8520	5627	1.7771	38
23	4745	2.1076	4960	2.0160	5180	1.9306	5403	1.8507	5631	1.7759	37
24	4748	2.1060	4964	2.0145	5184	1.9292	5407	1.8495	5635	1.7747	36
25	4752	2.1044	4968	2.0130	5187	1.9278	5411	1.8482	5639	1.7735	35
26	4755	2.1028	4971	2.0115	5191	1.9265	5415	1.8469	5642	1.7723	34
27	4759	2.1013	4975	2.0101	5195	1.9251	5418	1.8456	5646	1.7711	33
28	4763	2.0997	4979	2.0086	5198	1.9237	5422	1.8443	5650	1.7699	32
29	4766	2.0981	4982	2.0072	5202	1.9223	5426	1.8430	5654	1.7687	31
30	4770	2.0965	4986	2.0057	5206	1.9210	5430	1.8418	5658	1.7675	30
31	4773	2.0950	4989	2.0042	5209	1.9196	5433	1.8405	5662	1.7663	29
32	4777	2.0934	4993	2.0028	5213	1.9183	5437	1.8392	5665	1.7651	28
33	4780	2.0918	4997	2.0013	5217	1.9169	5441	1.8379	5669	1.7639	27
34	4784	2.0903	5000	1.9999	5221	1.9155	5445	1.8367	5673	1.7627	26
35	4788	2.0887	5004	1.9984	5224	1.9142	5448	1.8354	5677	1.7615	25
36	4791	2.0872	5008	1.9970	5228	1.9128	5452	1.8341	5681	1.7603	24
37	4795	2.0856	5011	1.9955	5232	1.9115	5456	1.8329	5685	1.7591	23
38	4798	2.0840	5015	1.9941	5235	1.9101	5460	1.8316	5688	1.7579	22
39	4802	2.0825	5019	1.9926	5239	1.9088	5464	1.8303	5692	1.7567	21
40	4806	2.0809	5022	1.9912	5243	1.9074	5467	1.8291	5696	1.7556	20
41	4809	2.0794	5026	1.9897	5246	1.9061	5471	1.8278	5700	1.7544	19
42	4813	2.0778	5030	1.9883	5250	1.9047	5475	1.8265	5704	1.7532	18
43	4816	2.0763	5033	1.9868	5254	1.9034	5479	1.8253	5708	1.7520	17
44	4820	2.0748	5037	1.9854	5257	1.9020	5482	1.8240	5712	1.7508	16
45	4823	2.0732	5040	1.9840	5261	1.9007	5486	1.8228	5715	1.7496	15
46	4827	2.0717	5044	1.9825	5265	1.8993	5490	1.8215	5719	1.7485	14
47	4831	2.0701	5048	1.9811	5269	1.8980	5494	1.8202	5723	1.7473	13
48	4834	2.0686	5051	1.9797	5272	1.8967	5498	1.8190	5727	1.7461	12
49	4838	2.0671	5055	1.9782	5276	1.8953	5501	1.8177	5731	1.7449	11
50	4841	2.0655	5059	1.9768	5280	1.8940	5505	1.8165	5735	1.7437	10
51	4845	2.0640	5062	1.9754	5284	1.8927	5509	1.8152	5739	1.7426	9
52	4849	2.0625	5066	1.9740	5287	1.8913	5513	1.8140	5743	1.7414	8
53	4852	2.0609	5070	1.9725	5291	1.8900	5517	1.8127	5746	1.7402	7
54	4856	2.0594	5073	1.9711	5295	1.8887	5520	1.8115	5750	1.7391	6
55	4859	2.0579	5077	1.9697	5298	1.8873	5524	1.8103	5754	1.7379	5
56	4863	2.0564	5081	1.9683	5302	1.8860	5528	1.8090	5758	1.7367	4
57	4867	2.0549	5084	1.9669	5306	1.8847	5532	1.8078	5762	1.7355	3
58	4870	2.0533	5088	1.9654	5310	1.8834	5535	1.8065	5766	1.7344	2
59	4874	2.0518	5092	1.9640	5313	1.8820	5539	1.8053	5770	1.7332	1
60	4877	2.0503	5095	1.9626	5317	1.8807	5543	1.8040	5774	1.7321	0
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	64°		63°		62°		61°		60°		′

TABLE VI. — NATURAL TANGENTS AND COTANGENTS

′	30° tan	cot	31° tan	cot	32° tan	cot	33° tan	cot	34° tan	cot	′
0	5774	1.7321	6009	1.6643	6249	1.6003	6494	1.5399	6745	1.4826	60
1	5777	1.7309	6013	1.6632	6253	1.5993	6498	1.5389	6749	1.4816	59
2	5781	1.7297	6017	1.6621	6257	1.5983	6502	1.5379	6754	1.4807	58
3	5785	1.7286	6020	1.6610	6261	1.5972	6506	1.5369	6758	1.4798	57
4	5789	1.7274	6024	1.6599	6265	1.5962	6511	1.5359	6762	1.4788	56
5	5793	1.7262	6028	1.6588	6269	1.5952	6515	1.5350	6766	1.4779	55
6	5797	1.7251	6032	1.6577	6273	1.5941	6519	1.5340	6771	1.4770	54
7	5801	1.7239	6036	1.6566	6277	1.5931	6523	1.5330	6775	1.4761	53
8	5805	1.7228	6040	1.6555	6281	1.5921	6527	1.5320	6779	1.4751	52
9	5808	1.7216	6044	1.6545	6285	1.5911	6531	1.5311	6783	1.4742	51
10	5812	1.7205	6048	1.6534	6289	1.5900	6536	1.5301	6787	1.4733	50
11	5816	1.7193	6052	1.6523	6293	1.5890	6540	1.5291	6792	1.4724	49
12	5820	1.7182	6056	1.6512	6297	1.5880	6544	1.5282	6796	1.4715	48
13	5824	1.7170	6060	1.6501	6301	1.5869	6548	1.5272	6800	1.4705	47
14	5828	1.7159	6064	1.6490	6305	1.5859	6552	1.5262	6805	1.4696	46
15	5832	1.7147	6068	1.6479	6310	1.5849	6556	1.5253	6809	1.4687	45
16	5836	1.7136	6072	1.6469	6314	1.5839	6560	1.5243	6813	1.4678	44
17	5840	1.7124	6076	1.6458	6318	1.5829	6565	1.5233	6817	1.4669	43
18	5844	1.7113	6080	1.6447	6322	1.5818	6569	1.5224	6822	1.4659	42
19	5847	1.7102	6084	1.6436	6326	1.5808	6573	1.5214	6826	1.4650	41
20	5851	1.7090	6088	1.6426	6330	1.5798	6577	1.5204	6830	1.4641	40
21	5855	1.7079	6092	1.6415	6334	1.5788	6581	1.5195	6834	1.4632	39
22	5859	1.7067	6096	1.6404	6338	1.5778	6585	1.5185	6839	1.4623	38
23	5863	1.7056	6100	1.6393	6342	1.5768	6590	1.5175	6843	1.4614	37
24	5867	1.7045	6104	1.6383	6346	1.5757	6594	1.5166	6847	1.4605	36
25	5871	1.7033	6108	1.6372	6350	1.5747	6598	1.5156	6851	1.4596	35
26	5875	1.7022	6112	1.6361	6354	1.5737	6602	1.5147	6856	1.4586	34
27	5879	1.7011	6116	1.6351	6358	1.5727	6607	1.5137	6860	1.4577	33
28	5883	1.6999	6120	1.6340	6363	1.5717	6610	1.5127	6864	1.4568	32
29	5887	1.6988	6124	1.6329	6367	1.5707	6615	1.5118	6869	1.4559	31
30	5890	1.6977	6128	1.6319	6371	1.5697	6619	1.5108	6873	1.4550	30
31	5894	1.6965	6132	1.6308	6375	1.5687	6023	1.5099	6877	1.4541	29
32	5898	1.6954	6136	1.6297	6379	1.5677	6627	1.5089	6881	1.4532	28
33	5902	1.6943	6140	1.6287	6383	1.5667	6631	1.5080	6886	1.4523	27
34	5906	1.6932	6144	1.6276	6387	1.5657	6636	1.5070	6890	1.4514	26
35	5910	1.6920	6148	1.6265	6391	1.5647	6640	1.5061	6894	1.4505	25
36	5914	1.6909	6152	1.6255	6395	1.5637	6644	1.5051	6899	1.4496	24
37	5918	1.6898	6156	1.6244	6399	1.5627	6648	1.5042	6903	1.4487	23
38	5922	1.6887	6160	1.6234	6403	1.5617	6652	1.5032	6907	1.4478	22
39	5926	1.6875	6164	1.6223	6408	1.5607	6657	1.5023	6911	1.4469	21
40	5930	1.6864	6168	1.6212	6412	1.5597	6661	1.5013	6916	1.4460	20
41	5934	1.6853	6172	1.6202	6416	1.5587	6665	1.5004	6920	1.4451	19
42	5938	1.6842	6176	1.6191	6420	1.5577	6669	1.4994	6924	1.4442	18
43	5942	1.6831	6180	1.6181	6424	1.5567	6673	1.4985	6929	1.4433	17
44	5945	1.6820	6184	1.6170	6428	1.5557	6678	1.4975	6933	1.4424	16
45	5949	1.6808	6188	1.6160	6432	1.5547	6682	1.4966	6937	1.4415	15
46	5953	1.6797	6192	1.6149	6436	1.5537	6686	1.4957	6942	1.4406	14
47	5957	1.6786	6196	1.6139	6440	1.5527	6690	1.4947	6946	1.4397	13
48	5961	1.6775	6200	1.6128	6445	1.5517	6694	1.4938	6950	1.4388	12
49	5965	1.6764	6204	1.6118	6449	1.5507	6699	1.4928	6954	1.4379	11
50	5969	1.6753	6208	1.6107	6453	1.5497	6703	1.4919	6959	1.4370	10
51	5973	1.6742	6212	1.6097	6457	1.5487	6707	1.4910	6963	1.4361	9
52	5977	1.6731	6216	1.6087	6461	1.5477	6711	1.4900	6967	1.4352	8
53	5981	1.6720	6220	1.6076	6465	1.5468	6716	1.4891	6972	1.4344	7
54	5985	1.6709	6224	1.6066	6469	1.5458	6720	1.4882	6976	1.4335	6
55	5989	1.6698	6228	1.6055	6473	1.5448	6724	1.4872	6980	1.4326	5
56	5993	1.6687	6233	1.6045	6478	1.5438	6728	1.4863	6985	1.4317	4
57	5997	1.6676	6237	1.6034	6482	1.5428	6732	1.4854	6989	1.4308	3
58	6001	1.6665	6241	1.6024	6486	1.5418	6737	1.4844	6993	1.4299	2
59	6005	1.6654	6245	1.6014	6490	1.5408	6741	1.4835	6998	1.4290	1
60	6009	1.6643	6249	1.6003	6494	1.5399	6745	1.4826	7002	1.4281	0
	cot	tan	cot	tan	cot	tan	cot	tan	cot	tan	
′	59°		58°		57°		56°		55°		′

WEIGHT OF A CUBIC FOOT OF VARIOUS MATERIALS
Continued

Name of Material	Average Weight, Lbs.
Mortar, hardened	103
Mud, dry, close	80 to 110
Oak, white, dry	50
other kinds	32 to 45
Petroleum	55
Pine, white, dry	25
yellow, Northern	34
Southern	45
Platinum	1342
Quarts, common, pure	165
Rosin	69
Salt, coarse, Syracuse, N.Y.	45
Liverpool, fine, for table use	49
Sand, of pure quarts, dry, loose	90 to 106
well shaken	99 to 117
Sandstones, fit for building	151
Shales, red or black	162
Silver	655
Slate	175
Snow, freshly fallen	5 to 12
moistened and compacted by rain	15 to 50
Spruce, dry	25
Steel	490
Sulphur	125
Sycamore, dry	37
Tar	62
Tin, cast	459
Turf or Peat, dry, unpressed	20 to 30
Walnut, black, dry	38
Water, pure rain or distilled, at 60° Fahrenheit	62.3
sea	64
Wax, bees	60.5
Zinc or Spelter	437.5